Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 1-7

The Role of Information and Communication Technology (ICT) and Human Capital in Economic Growth

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Abstract**—**Human capital and economic growth are among main factors of development of countries and are as important issues in economics, especially in developing countries. Determining effective factors on Human capital and economic growth can helps to choose relevant economic direction and accelerate developing process.

In this research we surveyed Fava analyzes in Iranian provinces using endogenous growth models in Panel data format at years of 2004-2011. According to obtained results, Information and Communication Technology effect on economic growth of Iranian provinces has been positive and significant and also Fava effect on human capital in Iranian provinces is negative. Thus, Fava development can be applied as effective policy in Iranian development and growth process.

Keywords**—**Economic Growth, ICT, Panel Data, Human Capital

I. Introduction

One important and emphatic factor in improvement process of production factor technology is ICT and its positive consequences on production factor productivity and economic growth. The elements of information technology and communications are not similar to physical machines as they contain programming languages, web sites, conversation rooms, MP3, online transaction and look ups, electronic money, electronic government and Internet and so on [5]. In recent years positive effects of IT have appears in developing countries, IT expenditures also increased and as conducted researches in developing countries don't have same results in this area, still there is a base to surveying IT phenomena in these countries which have potential, relevant infrastructures and human capital in this area and investment on it. But despite of these suitable potentials in developing countries, especially in Iran, still Supply deficit and low production are among main features of these countries and low productivity level is mentioned as main .Some economists tried to explain new technologies as growth factor in endogenous growth models and in this issue separating human capital from technology as coded knowledge is one important issues that cause defining information technology as Research & Development (R&D) in these endogenous growth models which consider long term growth is function of growth of Information Technology (IT) [12].

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2-Theoritical Framework

Fava sector has been interested in recent years, as we will see in continue this sector can survey in two aspects. Fava sector in production of goods and services is interested in supply aspect that has standard definition on size and industry structure, employment, business and value added. So Fava sector contains activities which provide Fava goods and services. Unlike other industries which have specific bordering between goods and services, there is no specific border in Fava sector [3].

There are four indices to defining Fava as follow:

1- Indices which show size of Fava industry as part of total economic.
2- Indices that show size and extension Fava expenditures.
3- Indices which measure level of using Fava by firm and households.
4- Indices which measure preparation, price and quality of services.

In this sector, we will briefly explain used indices for Fava in global level [11].

In Solow model technology imagined endogenously and considered as gift from paradise which automatically pursue its way. But relation in economic growth set thought and

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 1-7

exogenous models rose. These exogenous models considered technology as one endogenous effective factor in production and economic growth and defined the effect of technology in different ways such as human capital, improve the quality of production and progress in produce variety goods in model.

Lucas presented his endogenous growth model via defining human capital in neoclassic model. Aghion and Hiout in their paradigm based on Shompiter viewpoint, focused on improving quality of production as sign of new technology which surmount old technology producers. Naturally Grossman and Helphman and Roomer also, developed endogenous growth models which contain new technologies that research and development activities lead to produce technology and it can predispose for economic growth [1]. Primary researches on economic growth more focused on role of physical capital but economists make new literary in this area by defining research and development (R&D) and knowledge and new technologies terms.

Fava Impressments on Economic Growth and Human Capital

ICT can impress economic growth in different ways as follow (Quah, 2003).

First way: direct way appears via produce ICT goods and services and qualitative & quantitative growth of gross domestic product. i.e. Fava goods and services production is a part of added value of economic.

Second way is applying ICT at production function as capital input which lead to economic growth via profundities and renewing in technology and production process.

Third way; ICT create spillover via help to technology expanding and predispose for creativity and innovation which this leads to appear knowledge economy as well as more productivity of labor force and finally real production will increased in this way.

Totally both endogenous and exogenous growth theories are unanimity on Fava impressments but their affectivity and interpretation methods are different. Thus, we can conclude that Fava helps economic growth of each country via profundities of capital, improve productivity of labor-force and technical progress, increase in network effects and spillover to economic growth of countries. And this phenomena will more appear when time goes and accepted by economic activitists. It can be mentioned that Fava effect is not same in all sectors and depends of Fava degree of sector and economic of countries

In macroeconomic level there are two main approaches toward Fava impressments. First one consider the growth model which increased via increasing in size and more productivity in Fava sector and in this approach we consider just the effect of production that directly made by Fava sector (not indirectly) as this sector has quick growth, thus producing process has increasingly trend and consequence is increase in direct gross production. So this approach ignores the topic that Fava is a part of other sectors (they are more encounter to spillover sector or product of Fava). The second approach focused on Fava institutions and applicable Fava sector aspects and comes back to those explanations in theoretical framework which were on profundities and increasing in total productivity. Researchers of this area believe that produce per capita increased via increase in Fava investment. Here theoretical background is Solow theory which mentioned before and specified that Solow had separated Fava capital from non-Fava one. It can be mentioned that here its own problems are exist such as no ability to access to data in developing countries in this area. Empirical researches can be divided into three main sets as growth accounting paradigm, growth theories and stability paradigm [3].

3-Emperical Researches

Empirical Researches on Growth Accounting Paradigm

These studies had used abroad Solow production function which contain physical capital, Fava capital, labor-force and technology. Fava capital divided to three main sets as soft-ware, hard-ware and communication. Jergenson, Ho and Stiro (2006) showed that Fava explain 37% of US economic growth in 1995-2003. Davari (2002) show that Fava share of economic growth had been further in second-half of 1990 decade in compare with first-half at some European countries. Whereas positive correlation between Fava investment and growth of productivity has not been proved in these countries, it per se resonator the productivity puzzle is some surveyed European countries. Piatoscky and Argi (2005) compare role of Fava in Eastern European countries with western countries and show that Fava has strongly increased work productivity in eastern and central European countries and its most effect was in 1990 decade. Hyun-Joon Jung (2013) investigate Fava direct effect on economic growth by focused on its effect on industry using accounting method and finally confirm Fava positive effect on industry.

Empirical Researches on Growth TheoriesParadigm

In growth accounting method, to measure growth, we used production function in focus on production factors and their role in production, but in growth theories unlike above explained mechanical separation in accounting, we pursue factors which are affect economic growth. For example openness trade degree of countries is not a production factor but its positive effect on economic growth has been proved in researches. So in this method we consider both production factors in growth and a set of other variables which affect on economic growth.

Dowan and Crammer in another work, studied panel data of

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seventeen countries (they divide them in two set of developed and developing countrie) in years of 1985-1992 to test the positive effect of Fava and finally they conclude that results for developing countries are accurately inverse with results for developed countries. Lee et al (2005) survived causality relationship between gross domestic product (GDP) and Fava beside Solow residuals for twenty developed and developing countries using Cob-Doglass function in years of 1980-2000 and showed that unlike developed countries, developing countries cannot use Fava investment to improve productivity. Erbikam (2005) by applying statistic data in 153 countries (more focus on developing countries) using substitute indices and Fava distribution in years of 1995-2003 and finally strong relationship confirmed between them. Blorgi et al (2006) evaluated growth factors and more focus on Fava in 25 countries using syncretistic and GMM methods in 1992-2000 time period. They finally observe the positive relationship of both Fava production and Fava expenditure with economic growth. Corrado and Hulten (2010) surveyed effect of productivity of implicit capital and conclude that Fava has considerable effect on labor-force productivity and consequently on economic growth.

Mahmoodzadeh and Asadi (2007) surveyed ICT effects on labor-force productivity growth in Iran using ordinary least squares (OLS) method and time series data in 1971-2004 as time period.

Empirical Researches on Production Level in Stability Paradigm

In two previous methods we used data in country level to calculate growth than in growth accounting focused on institutions in production function as well as institution subject and some more factors such as trade openness degree of countries which have control role and to show more better economic growth of countries in growth theories method. But in stability paradigm that extracted from Mnico model and for the first time used by Pojola to show the relationship between growth and Fava, we pursue different method. The advantage of this paradigm is considered priority economic situation of countries as well as provide capability to empirical estimation without need to data of human capital, Fava and non-Fava variables. The main problem of two growth accounting and growth theories approaches is the need to Fava and non-Fava capitals data is necessary and to solve this problem we can use growth paradigms in stability paradigm which constant return to scale is regarded in them, when these data are not exist.

Pojola (2001) evaluate the effect of Fava on 39 developing and developed countries using Mnico et al model and include Fava investment at his model in years of 1980-1995. He also used GDP on Total active labor-force ratio, Fava investment and non-Fava investment on GDP ratio and registration in post elementary coerces rate as human capital index and population growth rate. Fava coefficient in OECD countries has been significant and most of cases Fava capital production elasticity is more than non-Fava one. In Iran, Moshiri and Jahangard (2004) used Pojola model and add some control variables such as inflation and time series data on 1369-2001 time period, estimated space-case model for Iran. Their ssults show that there is positive and significant relationship between investment in communication sector and economic growth in Iran. Komeijani and Mahmoodzadeh (2008) in their two joint works, used growth accounting and stability paradigms to study developing countries at Fava and economic growth aspects in years of 1995-2003 and finally confirmed the positive relationship between these variables (in these two studies, their samples contain Iran and growth accounting paradigm was just for Iran). Porfaraj, Esazadeh and Cheraghi (2008) surveyed the Fava relation with economic growth and tourism industry in years of 2000-2006 for more than 70 countries and showed that more share of Fava expenditure on GDP in sub-sectors of computer, financial, education and transportation in tourism industry lead to more edtourists absorption in country. Osar-e-Arani and Khondabi (2008) studied the relationship between ICT and economic growth for OPEC countries using panel data in years of 1998-2004 and confirmed the positive relationship between them. Najarzadeh, Khondabi and Talati (2007) surveyed the relationship between ICT and economic growth for organization of Islamic countries (OIC) members using panel data in years of 1996-2004 and confirmed the positive relationship between these two variables.

Shojaei and Beigi (2010) studied Fava relation with economic growth using endogenous model for Iran. And more accurately by time series analyzes and autoregressive distributed lags (ARDL) model and error correction mechanism. They conclude that there is no significance relationship in Fava sector respect to non-Fava ones. Jafari in his master dissertation surveyed Fava investment relation with added value in transportation sector for Iranian provinces at 2002-2004 as time period using panel data method. Finally, he, confirmed Fava effect on added value of transportation sector with special details. In recent studies in Iran, Fava has been title for some of them and they found that there is no relationship between Fava and economic growth and in following we very briefly introduce some of them. Asgharpoor and Mohammadzadeh (2011) surveyed development indicators effects on accept and use of Fava in Asian countries. Ziarati, Mohammadpour and Manochehri (2010) surveyed importance of Fava infrastructure developments in globalization process as well as Poorfaraj and Eisazadeh that in their last work study the Fava effect on economic growth and development for 14 countries at 2000-2006 time period

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and used Jini coefficient as proxy for development and digital opportunity index for economic growth of percapita production.

4-Model Specification

By consider above mentioned matters in theoretical framework and overview on empirical researches in this area, to estimation Fava effects on value added in Iranian provinces, three methods have introduced that contain production function method, growth accounting method and applied growth theory and here for obtain inclusive model we use Pojola (2001) paradigm:

$$Y = AC^{a_c}k^{a_k}H^{a_h}L^{a_l} \quad (١)$$

Where Y is production, L: labor-force, H: human capital, K: non-Fava investment, C: Fava investment, A is technology level and exponents is representative of their elasticity. Taking logarithm of production function, the model will be linear as follow:

$$LogY = LogA + a_c LogK + a_h Log\mathrm{H} + \mathrm{a_l Log}L \ (2)$$

Here we suppose that data on these variables are access and we follow to time series analyzing of one country or in international level (or for one province or provinces of country) by this model, but as there are some problem in level of these variables often we applied growth rate them. So take dereviation respect to time, we have:

$$Y^{\circ} = \mathrm{A}^{\circ} + \mathrm{a_c C}^{\circ} + \mathrm{a_k K}^{\circ} + \mathrm{a_h}H^{\circ} + a_l L^{\circ} \qquad (3)$$

This paradigm is estimable for time series data and international analyzes. Thus we consider the constant return to scale assumption and payment to production factors should be based on their marginal production. In this case a coefficient show the share of factor of total income and this is growth accounting for determining share of production factors from product growth.

All factors are observable in above equation except change of technology (A) and these changes obtain as Solow residuals and usually imply as total productivity of factors (Jafari, 2010, p98). As in empirical estimations, we are encounter to such problems like not accessibility of Fava capital and its share of national income (these data are access in just a few developed countries), so we have to use proxy or some estimations for existence capital and Fava investment (Davari, 2002). Existence capital obtained by applying growth paradigm and developed neoclassical growth models by Solow contain more than one type of capital (Mncio et al, 1992).

Pojola used that Moncio idea and present a model as follow:

$$\mathrm{Y} = \mathrm{C}^{\mathrm{a_c}}\mathrm{K}^{\mathrm{a_k}}\mathrm{H}^{\mathrm{a_h}}(\mathrm{AL})^{1-\mathrm{a_c}-\mathrm{a_k}-\mathrm{a_h}} \qquad (4)$$

Where it difference with previous model is this is workfare type as well as constant return to scale and can be limit by hoarding all three type of capitals (physical, Fava and human capitals). Solow model assume that constant part of production invested in three types of capitals. In this paradigm C, K and H are existence of physical capital, Fava and human capital respectively and L is labor-force. Also in this model assumed that following relation are holds:

5) y=Y/AL	Production per each unit of labor-force
6) c=C/AL	Physical capital per each unit of effective labor-force
7) k=K/AK	Fava capital per each unit of effective labor-force
8) h=H/AL	Human capital per each unit of effective labor-force
9) n $e^{nt}N_0 = N_t$	Labor-force growth during the time with growth rate
10) g $e^{gt}A_0=A_t$	Growth of technology during the time

Here it is necessary calculate the equations of change in all types of capital:

$$c^{\circ} = \frac{dc(t)}{dt} = \frac{1}{AL}\frac{dC}{dt} - \left(\frac{c}{(AL)^2}\frac{d(AL)}{dt}\right)$$
$$= \frac{1}{AL}\frac{dC}{dt} - \frac{c}{(AL)^2}\left(A\frac{dL}{dt} + L\frac{dA}{dt}\right)$$
$$= \frac{1}{AL}\frac{dC}{dt} - \left(\frac{1}{L}\frac{dL}{dt} + \frac{1}{A}\frac{dA}{dt}\right)\frac{C}{AL}$$

We suppose that investment (change in existence capital respect to time) is percentage of production (sY) plus a part of capital that will be depreciated, $\frac{dC}{dt} = s_c Y - \delta_c C$, so in this case we will have:

$$c^{\circ} = s_c Y(t) - (n + g + \delta_c)c(t)\,\frac{1}{L}\frac{dL}{dt} = n\frac{1}{A}\frac{dA}{dt} = g \qquad (12)$$

Based on this growth equation method, other capitals are calculable:

$$\mathrm{k}^{\circ} = \mathrm{s_k Y(t)} - (\mathrm{n} + \mathrm{g} + \delta_{\mathrm{k}})\mathrm{k(t)} \qquad (13)$$
$$h^{\circ} = \mathrm{s_h Y(t)} - (\mathrm{n} + \mathrm{g} + \delta_{\mathrm{h}})\mathrm{h(t)} \qquad (14)$$

Where S coefficients are saving rate of each type of capitals and & is their depreciation rate, so by use of production function we can write:

$$Y = C^{a_c}K^{a_k}H^{a_h}(AL)^{1-a_c-a_k-a_h} \rightarrow y = c^{a_c}k^{a_k}h^{a_h} \qquad (15)$$

Using all equations for existence of capitals, we can obtain optimum value for each of capital as follow:

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Issue 1(7S), August 2014, pp. 1-7

$$c = \left(\frac{s_c^{(1-a_k-a_h)} s_c^{a_k} s_h^{a_h}}{n+g-\delta}\right)^{1-a_c-a_k-a_h} \quad (16)$$

$$k = \left(\frac{s_k^{(1-a_k-a_h)} s_c^{a_k} s_h^{a_h}}{n+g-\delta}\right)^{1-a_c-a_k-a_h} \quad (17)$$

$$h = \left(\frac{s_h^{(1-a_k-a_h)} s_c^{a_k} s_h^{a_h}}{n+g-\delta}\right)^{1-a_c-a_k-a_h} \quad (18)$$

By substituting (16-18) equations in (15) and solve it based on $y = \frac{Y}{L}$, we have:

$$\mathrm{Log}\, y = a_\circ + \left(\frac{a_c}{1-\beta}\right) \mathrm{Log}\, S_c + \left(\frac{a_k}{1-\beta}\right) \mathrm{Log}\, S_k + \left(\frac{a_h}{1-\beta}\right) \mathrm{Log}\, S_h - \left(\frac{a_c+a_k+a_h}{1-\beta}\right) \mathrm{Log}\,(n+g+\delta) \quad (19)$$

Where $a_0 = \log A(0) + gt$ and $\beta = a_c + a_k + a_h$. Also depreciation rate δ is equal for all types of capitals and assumed that $\beta \prec 1$. As a result it can be mentioned that stable level of production per capita has positive relationship with saving rate of each type of capitals as well as negative relationship with population growth rate and depreciation rate. Thus, per capita production will be further in provinces that have more investment in FavaIf data on investment rates (or saving rates) be access for each type of capital, we can calculate above relation. In majority of researches sum of growth of technology, population and depreciation rate considered 5%. Three point on above model, first Doglass specification of technology signify earned income should cover constant share of national income by existence Fava capital as this case will be problem in increase of Fava case. Secondly considering depreciation is not true as Fava equipments have short lifetime in compare of other capitals and finally as third point implicit assumption of this model is that all provinces are at stable situation. For first two points not much work can be done, but Pojola (2002) solve third one with convergence modeling into stable case. Convergence topic in growth is meaningful when growth is surveyed in international (or between provinces) level as poor country (or province) has more quick growth than rich country (or province). I.e. poor country is going to obtain favorable growth rate. Different countries have various favorable growth rate and we can calculate effective factors in this stability via equation (19). Here necessary point is we can consider $\mu = (n + g + \delta_k)\beta$ as convergence rate in growth. According to Barro and Salay, Martin (2004) which investigate effect of 67 variable on economic growth, there is no possibility to survey all variable because of statistical limitation and degree of freedom subject. Above model is most possible inclusive model as we can both its parts to estimate growth accounting and some parts as growth theories and finally its some other parts for stability paradigm. In following, we suggest a model to estimate the growth rate in provinces:

$$\boldsymbol{LogGdpp} = \boldsymbol{C} + \boldsymbol{Log}\left(\frac{\boldsymbol{K}}{\boldsymbol{Gdp}}\right) + \boldsymbol{a_c Log}\left(\frac{\boldsymbol{Kc}}{\boldsymbol{Gdp}}\right) + \boldsymbol{a_h Log}\left(\frac{\mathbf{Kh}}{\mathbf{Gdp}}\right) + \mathbf{a_l LogL}\boldsymbol{Log} + aic(\boldsymbol{ICT}) \quad (20)$$

Introduce of Variables

Gross Domestic Product (Value Added): in economics point of view it is difference between output value and input value. In our model, we used gross domestic product data and gross domestic product per capita data for each province (in present price) which published by Iranian Statistics Center (ISC).

Existence Physical Capital (None-Fava): one of important factor that allocate much share of income (product) of country is existence capital and in majority of researches used constant capital formation ratio as proxy for it. We by consider this implicit assumption that capital of country proportionally distributed in provinces and used non-Fava formation ratio on production in Iran by extracted data from Iranian Statistics Center (ISC).

Existence Fava Investment: Fava investment like non-Fava investment is production factor which divided to several sectors such as communication sector capital, hard-ware sector capital (Fava infrastructure), soft-ware sector capital (applied Fava) and product sector capital (Fava spillover). So indices like capital formation of communication on production ratio for first sector that its data published by ISC and we can estimate it for each province but for other three factors there is no data even in country level.

Employment: labor-forceis one of the most important productions factor that its combination with other inputs especially with capital can be value created. To access data of this variable we used Iranian labor-force information data center.

Human Capital: knowledge and skills that labor-force earned via education, training and experience called as human capital. Many proxies have been used as proxy to human capital in different studies and here we used education expenditure on gross domestic product ratio and its data as well as other variables extracted from ISC annually reports.

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Model Estimation

After extracting related data for explanatory variables for years of 2008-2011, we select pane data methods to estimate of model as fit model. Here the point is in majority of conducted researches unbalanced data have been used, but we tried to solve this problem (i.e. problem that data of middle years created) then to select between fixed or random effect estimation, we used Husman test.

Panel data analyzes have different ways in estimation of model that fixed effect method and random effect method are important ones. Fixed effect term means that despite variety in intercepts in length of lags, but intercept of each lags is constant during the time and often we used pool method of F-test to choose this method. In fixed effect model as there are too dummy variables, degree of freedom will decrease and to solve this problem random effect model has been suggested and to identify fixed effect from random one we can use Husman test. The null of Husman is fixed effect are efficient and stable and alternative hypothesize is fixed effects are not efficient and stable.

Dependent variable is Gross Domestic Product Per Capita

Explanatory Variables	**Coefficients**	**Test-Statistics**
Log (K/Gdp)	0.43	**16.53**
Log (Kh/Gdp)	-0.007	**-0.78**
Log (Kc/Gdp)	0.08	**8.7**
Log (N)	0.37	**2.42**
C	5.98	**2.94**
R^2	0.99	
Husman-Statistics	13.42	**0.99**

Investment in Fava coefficient is positive and acceptable in statistical manner as according to model results its coefficients during 2004-2007 is 0.08 and also as we used Log function of variables in estimation, obtained coefficients are elasticity of variables. Obtained coefficient for Fava proxy (ICT combination index) is equal to 0.36 that is acceptable in statistical manner. To test Fava effects on production (Value added) we consider total investment in Fava respect to total value added for each province as well as using human capital expenditure index on production as proxy for human capital situation and its estimated coefficient is negative. This negative coefficient is not far from expectation for developing countries. To explanation of human capital coefficients we should notice that education in each situation is not motivated and effectible on economic growth especially in developing countries that have weak economical and social structures and institutions and economic policies create much limitation for free trade and market activities. While education in each level lead to positive private return to everyone in all countries, but it is possible to don't have positive and significant effect in macroeconomic level as results show this is true for university educations. If we look for answer to why university educations have different results in compare of high school education on economic growth and information technology, is interesting subject in economic growth and economic development literary. As education need mass investments in different sectors of infrastructure and institutions to become effective capital in production and it is not sustentative in developing countries, especially in Iran, these results are justifiable. Open economic countries (often developed countries) can access to more widespread markets, high technology level, more dynamic market, more competitiveness, better division of work, more flexible institutions and structures and totally more efficient economy by taking free economic policies. In these economics there are relevant infrastructure and institutions to transform education into capital in production process. For more study in human capital and economic growth in Iran we refer to Ebrahimi and Farjadi (2009) which their results are confirm ours and also is a comprehensive work in this area. In obtained empirical results of limited F-test to pursue whether separate intercepts for each province or not, in other word to specify choosing generalized least squares and fixedt effect method we used F-test as well as Husman test to select between fixed or random effects methods. Obtained results show that fixed effect choose for both variables of Fava and with Husman test value are shown in above table.

5-Results

Obtained results of growth paradigm estimation show that ICT effect on growth of country' provinces by using panel data is significant as well as positive coefficient of non-Fava investment which show that non-Fava investment has been affective on economic growth of Iranian provinces.

Coefficient of human capital investment is negative and meaningless in statistical point of view and this result is expected in developing countries and especially in Iran. Other variable is number of employees in each province which its positive and significant effect on both types of Fava substitute variables is apparent. For obtained results of estimation of model we should notice that effect of Fava proxy on economic growth of provinces has been positive and significant.

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Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 8-12

The study of the role of Knowledge management on the creativity of secondary schools principals of Mazandaran

Fereshteh chari Seresty

Abstract— This study is examined the role of knowledge management on the creativity of secondary school principals of Mazandaran. The method of this research is descriptive and the correlation type. The statistic study community are consisted of 617 individuals, all which are secondary schools principals of Mazandaran. The sample size determination was done by using a table of Kerjessi and accordingly, 238 individuals were selected by a stratified random sampling method. The data collection tools were included the questionnaire of the lavson management knowledge with 23 questions and the Rendsyp questionnaire containing 50 questions which were answered by principals. The currency and reliability of questionnaires contents were confirmed by experts and the ending (reliability) coefficient by using the Cronbach Alfa coefficient for each of questions was counted 0.72 and 0.84 respectively. The data collected were tested by using the Pearson correlation coefficient, multivariables regression test and the Z Ficher test. The results of survey are showed that there are a positive and significant correlation between knowledge management and creativity of principals, and the gender don't have any influences on knowledge management on principals' creativity.

Keywords— creativity, knowledge management, Mazandaran province, principals, secondary schools.

I. Introduction

Today, most experts in education believe that an education is the main Learning-Teaching organization in community in order to meet the new ages challenges needs to shift and transfer the learning community and enjoying an efficiency management strategy [15]. so that, principals become aware of the importance of knowledge and managing it in organizations, and many of them are looking to implement knowledge management in their organization, but also they are considering this case that they fail to implement knowledge management in their organizations, and the knowledge management in their organization fails, after considering the success of knowledge management is a major competitive necessity for organization, it is important to know whether their organization is ready for accepting any knowledge management or not? In fact, organizational leaders are asking themselves this questions from where should we begin, because knowledge management is a systematic issue? [4].

Therefore, given the great and dramatic changes in technologies, management uses a tool called knowledge in order to deal with uncertainty factors, to maintain position, and to create innovations (creativity) in the field of developing their competitive area. All organizations are needed new and wonderful (innovative) ideas for their survival. New and innovative ideas were blown like the soul in the organization body and were saved it from destroying. For this purpose, knowledge has a great and extraordinary importance as a main source of knowledge innovative and organizational efficiency. The main goal of knowledge management is created and organized an area in which people develop their knowledge , share knowledge with each other and combine the other knowledge with theirs and ultimately apply them [9]. since an acquisition, development, operational and correct management of knowledge were included one of the main responsibilities and challenges of organizations especially an education, in other words, knowledge management is more important than knowledge, and since (an education) as organizations producing knowledge were included the view of knowledge management, the rate of application organizational knowledge management factors seems necessary and appropriate for the correct orientation and strategy efforts [7]. On the other hand, it is one of the most important variables in creativity and innovation survey. Generally it could said that creativity is indicated (implied) the creation of new things, and is leaded to a new and useful result [3]. Thus the scholars' view is different in defining creativity. Therefore, sometimes each definitions represents an important aspect of the creativity process. For example, stephen Robbins believes that creativity is meaning in a manner unique thoughts or creating unusual

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ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 8-12

relationship between views [19]. It seems that there is a significant correlation between knowledge management with creativity and innovation, that this has led to encourage in the organization and like a new engine make remove gaps, however the efficiency of educational organizations in field of knowledge management are supported faster and easier in communication and information transmission, it showed the importance of creativity, capability, and performance of knowledge management in organization particularly schools. Therefore, knowledge based on knowledge management of principals are caused a serious survey in this area, and it is supposed that honesty and trust of management should be left to those who are watching from window of scientific and research administrative issues. Using knowledge management and creativity is an essential condition of successful organization including the organization of education. That shows the necessity and importance of knowledge management role and mixing up it with creativity that is leaded to efficiency and effectiveness of principals skills [17]. Knowledge management is a process that helps organizations to select, organize, distribute and transmit the most important and essential skills and data for performing their activities [1]. Nicy defines knowledge management as one of the duties of systematic education to improve its efficiency and effectiveness in order to survive in the emerging competitive environment [13]. From Malhorras point of view, knowledge management is a process that organizations get skills in the field of learning, (self-knowledge), encoding knowledge, (external knowledge), and the distribution and transfer of knowledge by that. Steive Halls knowledge management perspective is different. From his point of view, this management is a process that organizations have ability due to transfer data into information and information into knowledge and also be able to operate effectively achievement g knowledge in their decision. Hanis point of view of knowledge management is a process that is based on four following elements. a) Content: that is concerned to the type of knowledge (whether explicit or implicit). b) Skill: acquiring skills for knowledge extraction, c) Culture: culture of organizations should be encouraged to distribute knowledge and information. d) organizing: organizing available and existing knowledge. Generally, it be said that knowledge management is meaning the creation of necessary processes for identifying and capturing and acquiring data. The information knowledge is needed for organizations from internal and external environment and transfer them to the decision and actions of organizations and individuals that are included organizational employees and managers (internal environment) especially schools principals in its territory [18]. Studies show that there is many researches on the role of knowledge management field of organizational activity, but at the discussion of this survey that investigate more the relationship between knowledge management with the rate of schools principals creativity, has been done a little research. The present survey seeks to eliminate this deficiency and demonstrate the mechanism of the effect of knowledge management on principals' creativity, and a holistic perspective to performance frame and relationship of knowledge management has provided a better understanding of knowledge management for research in creativity field.

Background research

-The study results of Ghaedi et al. (2013), as the relationship between occupational commitment with the value of creativity of secondary schools principals in Bushehr is showed that there is a positive and significant relationship between occupational commitment and the value of creativity of secondary schools principals[6].

- Nayer et al. (2012), in a survey as the relationship between knowledge management and creativity among academic librarian of Shiraz university library concluded that there is a positive and significant relationship between two variables means knowledge management and creativity. While the gender, work experience, and education have no significant effect on librarians creativity[11].

- NiazAzari (2011), examined a survey as the studying role of knowledge management on teachers creativity. The results of this study showed that there is a relationship between knowledge management with teachers creativity . And also an impact of knowledge management has no difference on female and male teachers creativity and the variable publication of knowledge has the strongest relationship with creativity among five variables[12].

- Rahimi et al. (2011), a review of research on relationship between knowledge management process and creativity among university faculty members of Esfahan university reported that there is a positive and significant between knowledge management dimensions with the correlation creativity, and there is no significant differences between the average level education of knowledge management faculty , age, and the field of study[14].

- Sarchahani et al. (2011), in a research as the studying the effect of an individual factor on secondary schools principals creativity in four districts of Shiraz concluded that creativity of secondary schools principals of Shiraz are relatively low[16].

- Fasih (2008), studied an effect of management styles on teachers creativity of Kerman. The results showed that management styles and gender will affect a remarkable amount of impact on teachers creativity. An environment has a considerable and significant impact on the creativity of male

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 8-12

and female teachers. This difference in findings could be due of the culture of education system in the population studied that the gender differences play an important role on male and female activities[5].

- Maldonaldo et al. (2011) in their surveys entitled to examine the relationship between knowledge management and innovation among small and medium enterprises in Mexico concluded that knowledge management has a positive impact on products, process and innovation of management systems[10].

- Liao (2011) in a research on the impact of knowledge management strategy and organizational structure on innovation achieved to this results that there is a positive and significant effect between knowledge management , innovation, and creativity[8].

- The study results of Criscuolo et al. (2010) entitled global engagement and innovation in enterprise activities suggested that innovative multination company not only use researches, but also have a better relationship with retailers, vendors, and universities, and take advantage from knowledge and science[2].

Thus, due to this matter that is the development and enhancement of creativity as the most important goals and mission of educational organizations particularly an education, creativity and innovative management factor are affected as possible on schools, and enhanced their attitude to creativity and novelty new things in themselves and organization, and became an education environment into changes and innovation center. It could founded the necessity of this issue that if schools principals have had management skills

and also creativity and innovation skill, the area of creation and development of creativity in schools especially students and teachers will be provided [12].

Byconsidering that knowledge management depends on capabilities, motivation and opportunities for individuals, and increases their creation value and performance by distributing and recreating explicit knowledge of principals, and creativity has preference over knowledge and information of principal, we require extensive researches in order to understand the role of knowledge management and enhance creativity skills that it is possible to boost creativity in environment such as schools and other organizations which need to creativity. Therefore, the main purpose of this study was to investigate the role of knowledge management on secondary schools principals creativity of Mazandaran and provided some recommendations to an education officials that based on the fundamental principles of this survey is included:

1. There is a significant relationship between knowledge management and the secondary schools principals creativity.

2. The impact of knowledge management on creativity of women and men principals are different.

Materials and Methods

This survey is descriptive correlation method. Its population of statistic community is all of the secondary schools principals in Mazandaran in 1392 that are consisted of 617 individuals . Morgan and kerjessi table is used to determine the sample size which is based on a sample of 238 individuals who were selected by a stratified random sampling method. A questionnaire was used to collect data that questions are set based on the Five- choice likert scale options (completely disagree, disagree, no option, agree, completely agree). The numerical values of this five options are numbered zero to four. It means that the numerical value of completely agree is zero, and completely disagree is 4. The questionnaire is consisted of two parts, Lavson questionnaire that is containing 23 questions was used to measure knowledge management in the first part. Rendesyp questionnaire that is containing 50 questions, was used for measuring the value of principals creativity in the second part, and also was used to express and interpret the results by table. Thus, the score from zero to 19 is non creativity, 20 to 39 is under average, and 80 to 100 is very creativity. Then the total scores are calculated for each individuals and the most score is showing to be creative, and the less score represented to be non creative in organization that this questionnaire are derived from Gholikhani (1388), cronbach Alpha coefficient method was used for determining the validity test that its conclusion coefficient value for knowledge management questionnaire was %84 and for creativity questionnaire was %72. Data were analyzed by using SPSS soft ware that information obtained in descriptive level in the form of frequency distribution tables and column charts were provided and in the inferential statistics level, Pearson correlation coefficient test were calculated to influence and the relationship of knowledge management on principals creativity and for the female and male subjects, bivariate regression correlation coefficients matrix between variables were calculated.

Findings

Findings resulted from demographic specifications

A total 238 samples, 137 individuals about %57 of participations were women, and 101 individuals about %42.4 were men. Also, in terms of education, 27 individuals (%3) of participants were under graduated, 24 individuals (%50) had bachelor's degree (B.S), and 61 individuals (%25.6) had M.A. . The results statistical description about employment record variable suggests that from total of 238 samples, 10 individuals (more than %4) had 5 to 10 years of employment records, 68 individuals (%28.6) had 11 to 15 years of employment records, 86 individuals (%36.1) had 15 to 20

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 8-12

years of employment records, and 74 individuals (%31) had 20 years or more than it.

Study normality of variables

Table(1) Results of statistical analysis of normality

statistical indicator	kolmograph		shapiro	
normality test variables	degree of freedom	significance level	degree of freedom	significance level
	236	%246	236	%117

The above table shows that the significance level of the variables in this study is upper %5 the normal type. Thus, according to data normality, specific parametric test will be used.

First hypothesis: There is a significant relationship between knowledge management and secondary schools principals creativity.

Table 2 The correlation matrix between the dependent variable (principals creativity) independent variable (knowledge management)

variables	correlation level	significance level	degree of freedom
knowledge management	**0.608	0.000	236

** the significance level 0.01
* the significance level 0.05

In the above table, according to the measuring level and normal data of test in the levels of principal creativity and their knowledge management variables, for assessing the relationships of variables were used the Pearson correlation coefficient. An examining the relationship of variables is indicated that there is a positive and correct correlation between two variables , and then the null hypothesis is rejectedand the research hypothesisis. Therefore, it could be said that there is a %99 confidence of relationship between principals creativity and knowledge management level. But this is positive and correct relationship.

The second hypothesis: The impact of knowledge management on male and female principals creativity is different.

Table (3) Thepearson correlation matrix between the levels of knowledge management
** the significance level 0.01

gender	variable	correlation level	significance level
female	knowledge management/creativity	0.574	**0.000
male	knowledge management/creativity	0.641	**0.000

The Fischer Z variables on the absolute values of the
*the significance level 0/05

	variable	creativity level
comparison of correlations between male and female principals	knowledge management	0.8

According to the results in table (3): for analyzing the above hypothesis, first of all among male and female subjects, the Pearson bi variable correlation coefficients matrix between the studied variables were calculated. Then the Fischer Z values of the matrix were calculated for studying the difference of correlation coefficient. So as we can see in the above table, there is a positive and significant correlation between the roles of male and female principals knowledge management and creativity. Therefore, since the calculated values for the statistics of Z is related to compare the correlation coefficients between knowledge management and the level of male (0.641) and female (0.574) principals creativity. The statistics of Z amount (%8) is showed that the correlation level do not differ in male and female principals. Then the null hypothesis is accepted and the research hypothesis is rejected.

II. Conclusion

The research findings related to the first hypothesis is showed a significant relationship between two variables, then the null hypothesis is rejected and the opposite hypothesis is accepted. This findings are consistent to the similar findings of Maldonado et al. (2001), Liao (2011), Crisculo et al. (2010), NiazAzari (2011), Rahimi et al. (2011), Nayer et al. (2011), Ghaedi et al. (2013). However, they are not consistent to the similar findings of Sarchhani et al. (2011). So it can be inferred that the more the level of knowledge management among principals, the creativity level will be more, too.

The research findings related to the second hypothesis indicated that the correlation level between male and female principals are alike, therefore the null hypothesis is accepted and the research hypothesis is rejected. This findings are consistent to the similar findings of Nayer et al. (2011), NiaazAzari et al. (2012), Rahimi et al. (2011), but there are not consistent with the same findings of Fassih (2008). So it can be inferred that an effect of knowledge management on principals creativity do not differ according to the gender.

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 8-12

Therefore, based on research findings, there is some recommendations to an education system that is followed:

1.An education system investments will be leaded to establish border and more extensive knowledge management and will be moved by creating a based- knowledge structure and organizing in order to improve the current situation and increase the principals creativity and entrepreneurship in the workplace and using this structure.

2.Held for short term course, the use of digital libraries and informing national and international data bases regardless of gender for gaining the latest scientific and research development on the effect of knowledge management on principals creativity.

3.With the deployment of advanced electronic infrastructure to address and do knowledge management and provideeducational programs management process in programs in order to employ a board principal creativity in a culture of education system.

Acknowledgment

I thank and appreciate Dr. Mohammad Salehi who guided me with humility and modesty in this path.

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Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 13-15

The effect of exchange rate unification policy on drug prices in Iran during 2001-2003

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Abstract — One of the main problems in drug sector is the mandatory dependence of this sector on the limited resources of foreign exchange. The change in economic structure of country gradually from the middle of the first development plan influenced Iran's pharmaceutical system, so far as single exchange reported in 2001. Indeed, large efforts that were made to perform this policy led to gradual removal of subsidized exchange from domestic drugs till the end of the year 2003. Performing this policy has raised discussions among Supporters and opponents. This study aimed to investigate the effect of exchange rate unification performance on drug price. This study is an analytic-descriptive study that has been carried out using the information on 2001-2003. To calculate the changes in drug prices affected by exchange rate unification performance on drug price, Fisher price index was used. The results of this study indicate that the extent of changes in total drug prices using Fisher price index in 2001-2003 is about 13.01 and 31.99, respectively. Total increase in drug price affected by exchange rate unification performance in 2001, 2002 and 2003 has been about 3221, 2890 and 3179 billion, respectively. With retrospect to exchange rate unification resulting in high inflation rate, the government must provide exchange rate for fundamental goods including drug in order that performing this policy does not lead to changing drug price; on the other hand, provisions must be provided in order that reimbursement of incremental costs is transmitted from patient to third-party payers and insurers. To share risk and cover higher risks, it is suggested to use Franchise afloat.

Keywords— Exchange rate unification, Drug, Inflation, Cost

I. INTRODUCTION

Issue of the appropriate exchange rate system to allocate exchange resources in different economic sectors is one of the most important economic issues.

In this sense, issue of exchange rate unification in the third world countries is not a new issue, and theoretical evidences and studies in most of countries date back to the 1970s. In Iran, exchange rate unification dates back to the early 1993. During the 1970s, decline in rates of unified exchange contrasting Rial and unification of the entire exchange market as single exchange rate was performed. Yet, exchange rate unification was not sustain stable by means of lacking supplementary policies, reducing world oil price and sustaining on exchange allocation to Preferential rate for importing fundamental goods, whereon circumstances to refer to Multiple system were emerged[1]If the exchange rate affecting a wide range of prices is found with a gap with real equilibrium rate, it will be obvious that a large part of measurement criteria for economic performance will not be used, and decision makers could not acquire the optimal allocation of resources [2]. Hence, the issue of exchange rate unification was again confirmed in article 29 of budget law in 2001. Exchange rate unification is assumed as exchange rate in all economic sectors including manufacturing, consuming and service sectors[3].Hence, based on the rule of the third development plan, the government was obliged to adopt single exchange rate . The advocates of this plan have known the most fundamental cause for defense as creating competition area in economic arena for Entrepreneurs and combating with Rentier economy, and believed that only under the unified exchange rate, prices can reach to equilibrium and economic affairs can be carried out in a simpler way. The necessity to join to the world enterprise organization is another reason for sustaining on performing single exchange rate. On the other hand, opponents of unification know increasing inflation rate especially in industrial goods, medical services and other public services as the most effects from exchange rate unification, and the main concern has been to those goods that government used to pay subsidiary for them[4].

Since drug as one of the fundamental pillars has an unavoidable role in treating diseases, and as drug in any state is considered as a strategic good with high importance in producing it to meet necessary needs, the country's economic and political system over one decade has adopted governmental supports for production and import of drug within country [5]. Further, since exchange has been allocated to procurement of pharmaceutical products in health system, lacking foreign exchange has been considered as a serious limitation in international drug procurement in most of countries, where this is a logic reason to grant support for purchase of pharmaceutical products in this way[6].Hence, the most severe support granted to import and production of drug within country in the years before 2001 has been providing exchange with governmental rate for all supply chains in drug sectors, so that about 71.4% of all pharmaceutical products have been distributed with subsidiary exchange in 2001[7]. Entry, production and supply of drug are carried out by health ministry in a planned and centralized form, so that

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 13-15

competition place in country's pharmaceutical system has been faded [8]. Furthermore, value and scheduling for allocation of exchange resources to import the raw materials and drug have raised various problems for pharmaceutical industries and access to importing drugs for consumers and authorities[7].
Reform of the pharmaceutical policies within developing countries is one of the most important reform infrastructures in health sector, that world bank and world health organization believe this in case of necessity for reorganizing it.
According to the world development report, pharmaceutical sector has been assumed as one of the important aims concerning reforms, in which the fundamental infrastructure to reduce the wasted costs and settle disorders in governmental health plans exists [9].
As One of the main problems in drug sector is the mandatory dependence of this sector on the limited resources of foreign exchange, the change in economic structure of country gradually from the middle of the first development plan influenced Iran's pharmaceutical system[10]. Indeed, large efforts that were made to perform this policy led to gradual removal of subsidized exchange from domestic drugs till the end of the year 2003. Performing this policy raised many discussions among opponents and advocates of exchange rate unification performance. Hence, this study has addressed investigating effect of exchange rate unification performance on drug price during 2001-2003.

2. THE RESEARCH METHOD

This study is an analytic-descriptive study that has been carried out using the information on 2001-2003. To calculate the changes in drug prices affected by exchange rate unification performance on drug price, Fisher price index was used. 893 pharmaceutical products of 1429 importing pharmaceutical products were specified during 2001-2003, and the information on each of them entered to excel software, using Laspeyres, Paasche and Fisher price index. The sources for data collection include documents and records existing in Food and Drug Department of Ministry of Health and Medical Education and pharmaceutical journals. It should be noted that due to privacy of pharmaceutical companies' information, after calculating the actual costs of drugs in terms of dollars and Rails it was taken step to estimate shadow price.

3. Results

Table 1 indicates the extent of importing, domestic and sum of changes in drug prices given Fisher price index in 2002 compared to 2001 equals to 6.25, 14.36 and 13.01, and this extent in 2003 compared to 2001 on importing, domestic and sum of changes in drug prices equals to 22.08, 34.79 and 31.99, respectively, where this index indicates a substantial growth in drug price in 2003 compared to 2001.

Table 1: Fisher Price Index for importing and domestic drugs during 2001-2003

Drug	2001	2002	2003
Importing drug	٠	6.25	22.08
Domestic drug	٠	14.36	34.79
Total of drugs	٠	13.01	31.99

Table 2 indicates that increasing **consumers costs for** imported drugs due to exchange rate unification policy during 2001, 2002 and 2003 equals to 1826, 2221 and 2367 billion, and increasing consumers costs for Domestically produced drugs due to this policy equals to 1395, 669 and 812 billion. Hence, sum of consumers cost increase that resulted from exchange rate unification policy during these years equals to 3221, 2890 and 3179 billion.

Table 2: Changes in drug costs for consumers affected by exchange rate unification performance

Changes of drug costs for consumers	2001	2002	2003
changes of consumers costs for imported drugs due to exchange rate unification policy	1826	2221	2367
changes of consumers costs for Domestically produced drugs due to exchange rate unification policy	1395	669	812
Total changes of drugs consumers costs due to exchange rate unification policy	3221	2890	3179

4 . Discussion

The results of this study indicate substantial growth in drug price affected by exchange rate unification performance, where this is totally relevant with the results of other studies. the similar studies by Ghadirim who examined the inflation causes relating to exchange policies within country[11], Rahimi Broujerdi who examined the effect of decreasing money value on payments[12], Bahmani Skeoei[13]who examined macroeconomic effects in reducing foreign value, indicated that increasing exchange rate results in inflation. Further, Adeli[14] in a study on exchange rate and economic reforms indicates that public price level increases by modifying exchange rate and unifying it, where the study by

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 13-15

Khataei and Danesh Jafari[15]entitled " a study on effect of production, price level, exchange, money in Iran's economic fluctuations" indicated that the change in exchange rate leads to reducing gross domestic production. Milani, Masjedi and Mohammadi[16] believed that no relationship exists between exchange rate and production. Teimor Mohammadi and Gholami[17] in a study on investigating effect of exchange rate unification performance on macroeconomic variables deduced that formal exchange rate has a significant relationship with total price index of goods and services, so that exchange rate unification in shock period leads to increasing prices. Further, the results of study indicate increasing cost for drug consumers affected by exchange rate unification performance, which might be drawn into attention by politicians. It has enter into consideration the issue of what share of the incremental price relates to patient and what share is paid by insurer.

5 . Conclusion

Given exchange rate unification resulting in high inflation rate, the government must provide exchange rate for fundamental goods including drug in order that performing this policy does not lead to changing drug price; on the other hand, provisions must be provided in order that reimbursement of incremental costs is transmitted from patient to third-party payers and insurers. Social insurances serve aiming at sharing risk and covering higher risks. Hence, the higher risk coverage is considered in providing health care services to the insurers in which higher costs are considered as more risk. Hence, if the difference is considered in prescriptions franchise in a way that the more drug price increases, the less franchise will be paid; it will fulfill the insurance coverage for Health care throughout the country aiming at supply of services with higher risk. This method which is regarded as Franchise afloat is reported with 90% Franchise in lower prices, where this prescription franchise decreases by increasing price, such that franchise might reach to 5% to 10% in relatively high prices.

6 . ACKNWLEDGEMENT

This article has been taken from master thesis of Iran University of Medical Sciences, that financed by Ministry of Health and Medical Education.

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Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 16-19

The law of extra use of wells in Iran

M. Nezhad-Malayeri

Abstract**—** Extra use of permitted wells with permission license or over use of water determined in well license is one of the examples of unpermitted use of water sources and its adverse environmental effects are also forbidden by the law maker. The penal code of this crime in accordance to article 45 is water just distribution and it makes the offender for compensation and the legal law includes damage compensation to the underground aquifer based on the vote of general board of Supreme Court. Installing intelligent contour and reforming the installations based on wells yield are one of the control methods of extra use and the general or penal courts deal with this crime.

Keywords**—** Law, Unpermitted use, Extra use, Use license

I. Introduction

According to article 1 of fair water distribution law of Islamic council parliament, all water sources including surface (the water flowing in ground surface) as river, pond, waster passages and sub-surface (the water taking evaporation, density and raining stages and in permeability stage in ground surface) as springs, wells and all water drainage, sewage, mineral water and etc. are the common aspects and they are as the responsibility of Islamic Republic government. They are used in accordance to public benefits. The responsibility of maintaining, permission and supervision on using them is given to the government and government here is ministry of energy (article 1 of fair water distribution law). Any measurement regarding water use and using water resources without any permission from Ministry of Energy is forbidden (based on article 45 of constitution). As Ministry of Energy is responsible for water allocation for various uses (drinking, agriculture, industry and etc), using water resources should be from mentioned ministry (article 21 of fair water distribution law)

Based on the mentioned items, three offence types regarding wells use are as followings:

The first is when people dig unpermitted well and use it (unpermitted well, unpermitted use), in the next case, a person is permitted to dig the well and before use license, can use water (permitted well- unpermitted use), in the third case, after receiving digging license and passing legal stages and issuing operation permission and installation permission and installation permission can use water. The water use is more than the permitted value in license (determined discharge based on the commission of issuing licenses) (permitted well-unpermitted use). This is called extra use. The obvious example of article 45 of fair water distribution law is due to the adverse environmental effects and its negative effect on aquifer of underground water and plains are forbidden by the law maker and are discussed in this paper.

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II. Extra use of well (unpermitted use in license)

Sometimes, it is possible a person after digging well and receiving use license, without considering permitted yield of well (determined discharge) can start extra use. Well extra use leads to the reduction of underground water level. Other adverse effects as salinity of underground water table or ground subsidence are observed. Thus, to overcome with this illegal measurement is one of the duties of regional water companies.

Section 3, article 24 of executive regulation of second chapter of fair water distribution law , stated that regarding the wells with legal permission with extra use, the regional water organization or company warn the well owner to install within 20 days and after the expiration of period, if the owner doesn't do any measurement, the relevant organization or company removes the installations of the well and closes the well until installing the equipment in the presence of the agent of the company or regional water organization. If collective counter is provided, instead of changing the installations, volume counter is used (unfortunately, this section is omitted now).

According to the statistics in Northern Khorasan, of 3 thousands permitted wells, 350 million m3 of its water is emptied and about 400 wells have extra use of 140 million m3. IN other words, of 13% of permitted wells of this province, it is used as extra and this issue indicated the importance of water use of permitted wells and closing water wells is unpermitted [2].

As it was said, extra use of wells has adverse environmental

ISSN (Online): 2305-0225
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effects and some of the effects are including:

a. Reduction of underground water

Extra use of wells (namely in forbidden and critical regions) reduced reduction of underground water gradually. This issue damages the rights of other water sources users and it turns to the forbidden to critical forbidden regions.

Thus, any use in these regions should be done by permission of Ministry of energy. If there is negative operation of plains, it leads to full emptiness of aquifer and all the investments are destructed and various environmental problems are created.

b. Ground subsidence

Ground subsidence is the phenomenon that is created based on emptiness of the water of dense tissues and the bottom layers of earth surface and earth surface is subsided gradually. According to the experts, subsidence causes cracks in earth and it influences the underground and surface water model, the change of quality of underground water, earth deformation, regions flood and etc.

Thus, one of the most important problems regarding unduly use of underground water surface is the loss of water level and density of layers and sediment. This phenomenon causes ground subsidence as gradually in sand water table or as gradually in clay surface. In addition, this issue can cause many problems as creating crack in the ground, changing river gradient and roads, gradual subsidence of towers and structures and collapse of the walls of wells, the change of earth gradient and increasing flood of regions (Regional water of Golestan).

C. salinity of aquifer of plains

One of the outcomes of continual loss of underground water level or extra use is gradual salinity of underground water of saline water front to sweet water in coastal and desert areas. If underground water loss in plains is continued, besides water salinity leads to its full emptiness and all investments are eliminated. This has many considerable environmental problems [6]. In a study done in Forest plain (one of the towns of Torbat Heidarie), it is stated: Increasing need to water is used for more development of agriculture in Khorasan province generally and Forest plain specifically and it caused that water extracted from reservoir (outflow) is more than the volume of water entering reservoir (inflow). Continuing such method of water operation leads to continual loss of underground water and deficiency of reservoir in forest plain and it is observed well in unit hirograph and underground water level loss was during 1992-1993 and its intensity is during water year 1994-1995 and it is continuing.

As no change is made regarding the natural condition of the region and as the feeding of raining during 1994 to 1997 couldn't compensate the deficiency of reservoir and increase underground water surface, it is concluded the main factor of changing the quality (salinity) of aquifer of Dasht Jangle is continual loss of underground water surface and it is arising from the extra use of reservoir. In another study on Parishan lake (located in Parishan plain in Fars province), it can be said:

Unfortunately, in recent years due to dryness, increasing the use of agriculture wells around the lake and digging unpermitted wells created some problems for this ecosystem. The mentioned study attempted to calculate the effects of extra use of agriculture wells around Parishan Lake. Thus, by selecting water wheat, we investigated the effect of feedback between agriculture activity around the lake and Parishan lake level and finally, dependence of wheat yield on Lake Surface and dependence of qualitative and quantitative components of Parishan Lake to extra use of water from agricultural wells for what irrigation is supported [3].

III. Guarantee of Penal Execution of Extra Use of Wells

Based on the law of article 45 of fair water distribution approved on 1361/12/16, digging well or using water sources without observing legal rules is forbidden and the offender besides compensation should be punished in this article. In case of damaging water resources under the conditions without bad intention, the person is considered as without penal responsibility and the person only based on the rules of responsibility in civil law and civil responsibility law is responsible for compensation as done by his act on water sources. In the latter, punishment is stopped by proving the lack of bad intention and executive systems supporting water should follow up compensation based on legal regulations. One of the obvious examples of such case is extra use based on the permission in consumption license that is done in underground water resources as the offender has no intention and due to the problems of the lack of land leveling needs much water [4]. In such cases, the offender is exempted of penal responsibility and it has civil responsibility and this doesn't avoid issuing the order regarding returning to the initial state (using as inserted in license and reforming the installations).

In case, a person intentionally starts extra use of wells, without considering the conditions determined in operation license is considered as offender and he deserves the punishment determine in article 45 of fair water distribution and his action is the obvious example of the previous article and unpermitted operation of water resources is considered (Theory No. 7.5251 dated on 1384/7/24).

Regarding the arrest determined in the section 1, article 3 receiving some of the government revenues and its consumption in definite cases approved on 1994 as the maximum punishment is less than 91 days of imprisonment,

ISSN (Online): 2305-0225
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the court can condemn the accused of lash or cash punishment of 70 thousands to 1 Rial to one Million Rial (theory No. 7.7456 dated on 1379/7/30 of legal office and formulating judiciary power).

Also, the order is not about returning to the previous state in the claims of article 690 of Islamic penal code and article 45 of fair water distribution law approved in 1982 and it is about acquittal or prosecution ban and it avoids the court take decision regarding returning to the previous state (Theory No., 7.11033 dated on 1380/11/30).

IV. The legal guaranty of extra use of wells crime

According to the order in article 45 of water fair distribution approved on 1361/12/16, digging well or using water resources without observing legal rules is forbidden and the offender besides returning to the initial condition and compensation is condemned to the punishment in the article and damage compensation in this article is compensation due to misuse of underground water resources and its amount is determined by experts.

In procedure unity vote No. 713 dated on 88/10/15 of general board of supreme court, based on the majority of general board of supreme court of the country, the order of 12th branch of revision of Khorasan Razavi province approving the condemnation of the offender not to use the claimed well and compensation to the underground water aquifer, is considered as legal and compensation of these damages is recognized in Iran law. Thus, claiming for these damages by government is separated from claiming the damage considered due to unpermitted use to neighboring water resources and the operation of other consumers is challenged.

V. The competent courts to deal with the extra use offence of wells

If a person without making fear and as for destruction intention uses water sources as individually and there is no effect of disturbance, is not punished.

Dealing with the misuse of public property offences is the responsibility of general court and this shows the consulting view of judiciary office [4].

Based on the rules of fair water distribution and the benefit of general, legal and penal courts, in penal courts and in civil affairs is based on the legal competent courts (based on the theory No. 715421 dated on 69/9/26 of legal court office) [1].

Based on the reformation law of public and revolution court 2002, these crimes are the responsibility of public courts [4].

In addition, in case of offence or crimes in article 45 of fair water distribution law, the competent court can deal with the crime [5].

VI. Intelligent counter

Intelligent water and electricity counter is a combination of digital electricity counter, water volume counter and consumption management. This counter by measuring electricity parameters, namely active and reactive power and based on the type of electro pump calculates its moment discharge and its water volume [8].

In other words, Intelligent counters are the ones installed in water use path and any farmer can use agriculture wells as charged in the card (Water saving).

Since 2010 and approving the law of water wells without permission (note 1), installing intelligent water counter and electricity on all agriculture wells is valued by wells owner and all wells in the country are equipped with counter by the end of fifth plan of development [8].

In the past, during issuing operation license for agriculture wells, the allowable discharge is determined based on water sources and allowable yield of aquifer for wells. However, there is no good tool to control the use of water of wells.

By installing intelligent water and electricity counter, considerable saving is done in water use of underground water and electricity consumption in the peak of network namely in the regions, the project is complete. The reduction of underground water loss in Asferayen plain, saving water use of underground water of ChaharMahal Bakhtiari, reduction of the hours of using electro pumps of Khorasan Razavi and the reduction of network peak in electricity distribution of Shiraz town are the examples of this saving [8].

For example, Asferain plain has 487 agriculture wells with obtaining volume of annual 136 million m3. Electricity wells 350 with 120 million m3 obtaining volume and 88.22% of total water outflow volume of aquifer of Asferain plain is considered. The permitted electricity wells in the past years were annually 30 million m3 more than the allowable limit of aquifer of Asfrain plain and by equipping the well with intelligent water and electricity counter, this extra use is controlled [7].

By investigation of the effective factors in improving water reservoir of aquifer of Asferain plain, it can be said by equipping agriculture wells to intelligent water and electricity counters, 30 million m3 of 44 million m3 deficiency of reservoir of Asferain plain is controlled and besides omitting 6 million m3 of water obtaining of aquifer reservoir of this plain by unpermitted wells and increasing raining and reduction of water table surface of Asferain plain is controlled.

VII. Conclusion

Today, unduly use of sub-surface water resources namely in

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 16-19

arid regions of our country created water and environmental crises including reduction of sub-surface water tables, ground subsidence and salinity of aquifer of plains. One of the methods of unpermitted obtaining of water is extra use of wells with operation license of ministry of energy.

In these cases, the offender without considering the conditions in license and without considering permitted water yield of well attempted to use it. The identification and coping with these crimes are the responsibility of ministry of energy (and regional water companies) as sponsors of water affair. The penal guaranty of crime of article 45 of fair water distribution law and considered some punishments for the offender. It can be said that issuing any order regarding the punishment of offender, doesn't avoid issuing the order regarding the return of well yield as determined in operation license. Thus, receiving compensation of plains aquifer is based on the vote of general board of Supreme Court of the country for government. The more comprehensive the rules regarding support of water resources, the more the supervision of authorities of water affairs on operations and the issued votes by judges are more regarding offence as strict. If all the permitted wells are equipped with intelligent counter in accordance to law, the extra use of wells and loss of water table is less. It can be said that by appropriate use of water resources, we observe the reduction of negative yield of plains and returning to initial state before banning.

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Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 20-25

Studying mediator role of switching cost in relation between service quality and brand loyalty
A case study: Active Airlines in East Azerbaijan

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Abstract— Recent studies show that the quality of the service offered in strategic business centers is the most important factor affecting the functioning of the centers. The quality of Services could also be a prominent factor in gaining the precious results like satisfactory and commitment to that brand which could provide great contribution of business market simultaneously.
The research is based on recognizing the effects of the moderate factor of the brands fluctuating costs on the brand loyalty and the quality of services among active airlines of Tabriz city.
The results of this research shows that although Servqual model's five important and effectual parameters(Responsiveness, empathy, assurance, reliability, tangibles) are considered as an effective factor on the quality of brands,If we want to discuss about vitality, tangibles variables is known as the most important influencing factor on brand loyalty and Response variables, assurance, empathy and trust are in the next level of importance.According to the results, the costs of brand changing will not moderating the relationship between service quality and brand loyalty in the airline.

Keywords— Switching cost, Brand loyalty, Service quality, Airlines, Servqual, Spss.

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I. INTRODUCTION

According to the previous studies, history of measuring the quality in the field of services is less than the product because of complex nature of the services. Nowadays, in order to improve the quality of the services, competition is known as a significant and strategic problem for service organizations. Organizations that accomplish higher levels of service quality, ultimately, get to the higher levels of customer satisfaction and brand loyalty.The question that has been created in mind of researchers refer to previous studies which have noted that delivering a higher quality services consistently than competitors could bring a strong competitive advantage. The questionis that did they consider costs of brand switching in relation betweenquality of services and brand loyalty or not?Researcherstogether looking to answer this question the answer of this questions among the active airlinesin the province of East-Azerbaijan because of the necessity of the airlines' special attention to service quality in nowadays competitive environment.In this study, researchers sought to answer the following questions:
Can the switching cost be considered as a mediator factor between service quality and brand loyalty or not?

II. LITERATURE REVIEW

A. Service Quality—Service quality has been defined as 'the delivery of excellent or superior service relative to customerexpectation' [12]. Gronroos (1994)[13] indicates that service quality can be classifiedinto two distinctive dimensions: technical; and functional. In the restaurant context, technical quality involves ameal provision while functional quality relates to

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 20-25

how a meal is provided.SERVQUAL instrument [14] is a research-based set of generalexpectations that customers have for their service providers. SERVQUAL consists of five dimensionsinvolving the core features of service provision. These dimensions include reliability, tangibles,responsiveness, assurance and empathy. Parasuraman, Zeithaml and Berry (1988)[15] proposed that meeting orexceeding customer expectations in each of these key areas can improve customer satisfaction. According toBerry and Parasuraman (1991, p.16) [16], thesedimensions are defined as:

(i) Reliability: The ability to perform the promised service dependably andaccurately.

(ii) Tangibles:The appearance of physical facilities, equipment, personnel andcommunications materials.

(iii) Responsiveness: The willingness to help customers and to provide prompt service.

(iv) Assurance: The knowledge and courtesy of employees and their ability to conveytrust and confidence.

(v) Empathy: The provision of caring, individualized attention to customers.

SERVQUAL has been widely used by service quality researchers for some considerable period oftime [17]-[18]. The fivecomponents of the model became the most popular strategy for competing in a service environment, especiallywhere a high level of competition was evident [19]. Consequently, the introduction of SERVQUALchanged the face of the service industry. Since the items defined in the SERVQUAL instrument are thought tobe too general [19], many modified versions of SERVQUAL have been developed to suit the natureof such specific contexts as lodging[20] and restaurant(Stevens, Knutson and Patton 1995). In the restaurant context, DINESERV developed by Stevens, Knutson andPatton (1995) is used by many researchers to measure service quality [21]-[22].

Aydin and Ozer (2005)[23] concluded that service quality is an important antecedent of brand loyalty. Furthermore, Ward and Mullee (1997)[24] reported service quality is one of the major concerns to customers of telecommunications services.Many researchers stated the fact in a way that in what so manner brand loyalty is describe, service providers should boost up customer satisfaction by lifting up offered service quality [25]-[26]-[27]-[28].

B. Brand Loyalty**—**Brand loyalty has been a one of the biggest issues in the world of marketing over the last years(Kotler, 1994).Brand loyalty has been defined in many different ways throughout the years. Following are few ofthe most widely used definitions.Wolfe and Ferland [1] define brand loyalty as a consumers decision, expressed through intention or behavior, to repurchase a brand on a regular basis. This kind of decision can be made both on conscious as well as unconscious basis. It occurs because the consumer perceives that the brand offers the right product features, image, or level of quality at the right price. Wilkie (1994) [2] defined brand loyalty as "…a favorable attitude toward, and a consistent purchase of, a particular brand". This definition suggests that consumers are loyal when both attitude and behavior are favorable. Oliver (1997) [3] defined loyalty as "…a deeply held commitment to repurchase a preferred product or service consistently in the future, thereby causing repetitivesame-brand or same brand-set purchasing, despite situational influences and marketing efforts thathave the potential to cause switching behavior".What all these definitions have in common is that brand loyalty is not necessarily the actual actionof purchasing, but the intention to do so. The definitions also include that the attitude towards thebrand must be favorable for loyalty to be created, and there has to be a repetition of purchases.Added focus was put on the topic once marketers realized that brand loyalty has astrong connection to higher sales volumes, gives companies the option of premium pricing, andencourages the customers to search for their preferred brand [4].

Anotherfactor contributing to stronger focus on brand loyalty is the fact that it can cost up to six times asmuch to win over a new customer as it costs to retain an already existing one [5]. Loyal brand users do not only spread positive word of mouth about their preferredbrand as well as defending the brand in arguments and discussions, but also often talk competitivebrands down. This suggests that brand loyalty to one brand not only influence the brand positively,but also possibly have negative effects on the competitive brands [6]. Fournier and Yao (1997)[29] described the center of companies‟ marketing strategies is the development and maintenance of consumer brand loyalty. The phenomenon is especially seen in markets with tough competition, highly unpredictable and low product differentiation. Carroll and Ahuvia (2006)[30] suggested that Brand love, in turn, is associated to higher levels of brand loyalty and positive word-of-mouth.Perhaps one of the most elaborate conceptual definition of brand loyalty is that offered by Jacoby and Chestnut (1978: 80)[8] where brand loyalty is defined as (3.2.1) biased, (3.2.2) behavioral response, (3.2.3) expressed over time, by (3.2.4) some decision-making unit, (3.2.5) with respect to one or more alternative brands out of a set of such brands, and (3.2.6) is a function of psychological (decision-making, evaluative) processes.Brand loyalty has been described as a behavioral response and as a function of psychological processes [9]. Loyalty is also defined as a deeply held commitment to repurchase a preferredproduct/service consistently over time, despite situational influences and marketing efforts thatmight have the potential to cause switching behavior[10]. Brand loyalty can, therefore,be described as a function of both attitudes and behavior (habit). Dick and Basu (1994)[11] suggest that brand loyalty favours positive word-of-mouth and greater resistance among loyal customers to competitive strategies. Obviously, such findings encourage marketers to build and maintain brand loyalty among customers. When striving for such goals, information on factors determiningthe creation of brand loyalty among customers becomes an important matter.

C. Switching Cost**—**In many markets, consumers face non-negligible costs of switching between different brands of products or services. There are at least three types of switching costs: transaction costs, learning costs, and artificial or contractual costs. Switching costs have been theoretically shown to have positive effects over prices, profits, and entry deterrence, and have been linked to a variety of competitive phenomena such as price wars and deep discounts offered by firms to attract new customers.

Marketers are trying to do as much as they can to preserve brand loyalty. Marketers have attempted to create an emotional attachment with their customers, believing that once customers

ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 20-25

become attached, they will not switch to another brand, regardless of price [31]. Unfortunately, consumers are more likely than ever to become brand switchers, especially to private labels, as they look for lower-price alternatives to what they normally purchase. Customers are abandoning brand loyalty and experimenting with different but cheaper brands. While the sales of luxury items has decreased somewhat, it seems that luxury items have the most brand loyal consumers. Consumers are willing to save up their money for these luxuries; they justify paying top prices for these items by saving and reducing spending on other lower-priced items [7]. It appears that the best and most innovative brands have been or will continue to be able to hold their value, despite the current recession .[31]

III. MATERIALS AND METHODS

The population which is used in study includes the airline passengers who have been accessible Travel Agencies in Tabriz city in a time interval of 1st May to 15th September, 2013. Cochran formula is used to determine the sample size. For data analyses, statistical method which is named confirmatory factor analysis has been used.

A. Statistical sample—In order to examine current hypothesis, passengers travel agency airlines selected as a survey in this research; to do this, one sample from East Azerbaijan's airline selected. this sample contain 272 passengers that from all those considerable samples,60.7 percent males,39.3 percent of women,21.7 percent in the age group of below 30 years old,45.6 percent between 30 to 50 years old,9.2 percent are over 50 years old, and 25 percent have diploma and lower education level, 48.2 percent bachelor,26.8 percent master and more than master, as well as 56.6 percent single and 43.4 are married. from all those considerable samples, 9.6 percent for freelance,12.5 percent employee,22.8 percent teacher,24.6 percent university students,16.5 percent retired ,and other 14 percent.16.9 percent income is about 500000 toman,37.1 percent income is about 500000 to 1000000 and 31.3 percent income is about 1000000 to 2000000 and 14.7 percent of their wage is above 2000000.Ata airline 5.9 percent, Turkish 20.6 percent, Mahan 32.7 percent, and Atlas jet 21 percent, Krandon 8.5 percent, Aunurair 5.9 percent and other airlines have 5.5 percent.

B. Measurement tools—In recent research, in order to gather essential information and measure variable of this study, questionnaire has been used. according to available standard questionnaire with brand loyalty and switching cost topic, the questionnaire has been prepared by researcher.To achieve these parameters, the theoretical presentation has been used. finally, in respect to these parameters a questionnaire has designed and a standard question service quality is used.The study uses Cronbach's α to measure the internal reliability of the questionnaire. As shown in Table 1,Cronbach's α of Switching Cost is ۰.۷۴۶, Brand Loyalty and Switching Cost are ۰.۸۸, Brand Loyalty is ۰.۸۲۸. According Guielford (1965) suggestion, when Cronbach's α is greater than 0.7, it shows the questionnaire has a relative high internal reliability. The results of the study show that Cronbach's α in all variables is higher than 0.7. It indicates that the reliability of the questionnaire is acceptable.

Table 1: Factor Analysis and Cronbach's α

Variables	Measurement item	Cronbach's α
Brand Loyalty (BA)	19	۰.۸۲۸
Switching Cost (SC)	5	۰.۷۴۶
BA-SC	24	۰.۸۸

C. Testing of Hypothesis—In this research, the following hypothesis which have been extracted based on the theoretical study, will be examined.

Table 2: Testing of Hypothesis

MODEL		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Dependent Variable: Brand Loyalty	(Constant)	0.883	0.199		4.428	0.000
	Switching Cost	0.536	0.032	0.728	16.765	0.000
	Service Quality	0.075	0.066	0.050	1.144	0.253
Dependent Variable: Brand Loyalty	(Constant)	0.990	0.179		5.534	0.000
	Switching Cost	0.054	0.035	0.734	15.628	0.000

ISSN (Online): 2305-0225
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	tangible	0.027	0.052	0.024	0.519	0.604
Dependent Variable: Brand Loyalty	(Constant)	1.041	0.157		6.625	0.000
	Switching Cost	0.549	0.030	0.745	18.124	0.000
	Reliability	0.005	0.037	0.005	0.124	0.901
Dependent Variable: Brand Loyalty	(Constant)	1.107	0.165		6.715	0.000
	Switching Cost	0.551	0.030	0.747	18.326	0.000
	Responsiveness	-0.022	0.034	-0.026	-0.636	0.525
Dependent Variable: Brand Loyalty	(Constant)	1.017	0.151		6.730	0.000
	Switching Cost	0.547	0.030	0.743	18.122	0.000
	Empathy	0.016	0.031	0.021	0.510	0.611
Dependent Variable: Brand Loyalty	(Constant)	0.877	0.151		5.807	0.000
	Switching Cost	0.532	0.030	0.722	17.565	0.000
	Assurance	0.087	0.033	0.107	2.597	0.010

Main hypothesis:
switching cost, abolish the relationship between service quality with loyalty brand in airline part.
In this table,the first line indicates the moderator relationship of cost and quality and loyalty,which according to analysis result and the sig. which is greater than 0.05,thereby the first hypothesis is rejected.

Specific hypothesis:
First hypothesis: switching cost, abolish relationship between customer perceptions of tangible and brand loyalty in airline part..
The second hypothesis: switching cost, abolish the relationship between customer reliabilitywith brandloyalty in airline part.
The third hypothesis: switching cost, abolish the relationship between customer responsiveness and brand loyalty in airline part.

The fourth hypothesis: switching cost, abolish the relationship between customer perceptions of empathy and brand loyalty in the airline part.

The fifth hypothesis: switching cost, abolish the relationship between customer perceptions of assurance and brand loyalty in the airline part.
According to the table 2 results and calculated sig., all of the table hypothesis are rejected except the fifth hypothesis,which indicates the moderator relationship of cost on loyalty and trust, which due to that the sig. is less than 0.05, the hypothesis is confirmed.

Also the result shows that the effective factors on quality are sorted such below in the point of the level of impact:

Table 3:Ranking of variables

Variables	Mean Rank
tangible	4.59
Responsiveness	2.98
Reliability	2.23
Empathy	2.35
Assurance	2.85

If we want to discuss about vitality, tangibles variables is known as the most important influencing factor on brand loyalty and Response variables, assurance, empathy and reliability are in the next level of importance.According to the results, the costs of brand changing will not moderating the relationship between service quality and brand loyalty in the airline.

IV. RESULTS

To analyze the results, the confirmatory factors have been used. the research is sought to identify the effect of service quality on brand loyalty and service quality of active airlines in Tabriz City.The results of this research have shown that in addition to the 5 factors design in Servqual model (responsiveness,empathy,assurance, reliability, tangibles) were considered as affecting services factors,Emerged results indicates that the costs of brand changing will not adjusting the relationship between quality of services and brand loyalty in the airline sector and of all the SERVQUAL model variable, tangible variable is detected as the most important factor influencing brand loyalty

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.switching cost can moderate the relationship between customer assurance and brand loyalty in the airline sector.

V. LIMITATIONS

There are some limitations in this study which are confounding variables that appeared in the process of collecting the data. Confounding variables include the passengers who have decided to utilize the services of airlines; the passengers who travel regularly and frequently, the passengers who travel in special holidays or because of their profession , for visiting exhibits, for shopping and benefiting of the medical and dental services and finally travel for meeting friends and families. Also for collecting the questionnaire `s data the passengers of the international flights had considered, And Due to the lack of the international flights' passengers this study confronted limitations.

VI. FURTHER SUGGESTIONS

According to previous studies, brand loyalty is the key to success in organizations and in many cases will reduce costs. In today's highly competitive market in aviation industry concentrating on the service quality and customer loyalty is inevitable.

According to that the brand changing costs and the results of analyses will not moderate the relationship between quality of services and brand loyalty in the aviation industry, Researchers suggest to companies which with providing a better quality and lower cost than its competitors they would be able to outdo and save the new and old customers. Also, given that in this study tangible is known as one of the most influential components of brand loyalty, Companies are encouraged to pay more attention on tangibles dimensions including facilities, personnel and communications products which is Leading to visual quality assessment of clients (especially new customers).

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Journal of Middle East Applied Science and Technology (JMEAST)

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Study of the constructive variables of brand loyalty in the travel and tourism agencies of East Azerbaijan province

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***Abstract* —**The theoretical framework of this study is based on the studies, which have already been developed. This Theory consists of two levels.One includes the variables that directly influence brand loyalty. These variables are: brand commitment, attitude toward the brand and customer satisfaction.

The second level includes the variable which influences variables in first level e.g. brand trust. Survey in September 2013 contains all customers who use the services of travel and tourism agencies. A questionnaire was used to collect field data. Results of structural equation tests show that the customer satisfaction has the greatest impact on brand loyalty; in addition, customer satisfaction has an impact on brand commitment and brand trust.After customer satisfaction, brand commitment has a great influence on brand loyalty. Finally, attitude toward brand also has an effect on brand loyalty.

***Keywords* —** Customer Satisfaction, Attitude toward brand, Brand Trust, Brand Commitment, Brand Loyalty, Spss

I. INTRODUCTION

The effect of the customer satisfaction on loyalty to the brand is a subject which many investigation have been performed on it and most of the researches indicated that there is direct and meaningful relation between the loyalty to the brand and customer satisfaction, also brand commitment, attitude toward the brand and brand trust are the important factor affecting the loyalty to the brand.

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Researchers with studying on the prior investigations and by the considering that, the travel agencies have been witnessed enormous challenges in the past few years and the most important challenge was broadening the spectrum of competition between travel agencies and increasing the level of knowledge and awareness of the costumers, in addition, according to the research gap in this field in travel and tourism industry of the province,in this research havebeen tried to demonstrate the constructive variables of loyalty to the brand of the travel agencies distinct them from the point of the vitality and the amount of the influence and ranked them.

I. LITERATURE REVIEW

***A. Customer satisfaction*—** Customer satisfaction is determined by customer perception:
following a service or purchase evaluation, customers form emotional perspectives toward a product[6] .
Anderson et al. (1994) [1] suggest that overall customer satisfaction is based primarily on the experience and satisfaction while purchasing merchandise or services:
it is both an emotional evaluation and a process of comparison between a "pre-consumption expectation" and the "post-consumption perceived performance". Customer satisfaction is the most widely discussed independent variable in studies on customer loyalty. [2]-[3]-[4]-[5]-[6]

***B. Attitude toward brand*—** Brand attitude is defined as consumers' overall evaluation of a brand whether good
or bad (Mitchell and Olson, 1981).[15]
The brand attitude will tell what people think about a product or service, whether the product is wanted by the consumer.
***C. Brand Trust*—** Morgan and Hunt (1994)[11] described that "Trust is an important factor in the development of marketing

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ISSN (Online): 2305-0225
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relationships and exists when one party has confidence in an exchange partner's reliability and integrity". Ballester and Aleman (2001) described that trust and satisfaction are conceptually connected.
As variables that generate consumer commitment especially in the situation of high involvement. Anderson and Narus (1990) argued that trust arise when someone hold a belief that the second person’s actions would cause affirmative effects for his/herself. Accordingly, in order to trust a brand, consumers should perceive quality as favorable object.

D.*Brand Commitment*—Kelley et al. (1990)[12] stated that "the organizational commitment of service customers is indicative of the organization's likelihood of developing or maintaining customer identification with organizational goals and values and retaining the service customer as an active participant the service encounter”. Tax et al. (1998)[13]-[14] focused on complaint handling in service sector and commitment. Many firms hold a view that well handling of customer complaints and grievances provide a source of brand commitment and brand loyalty. Effective complaint handling dramatically increases the customer retention rate and improves service quality as well.

***E. Brand Loyalty*—**Perhaps one of the most elaborate conceptual definition of brand loyalty is that offeredby Jacoby and Chestnut (1978)[7] where brand loyalty is defined as biased, behavioralresponse, expressed over time, by some decision-making unit, with respect to one or more alternative brands out of a set of such brandsandis a function of psychological(decision-making,evaluative) processes.
Brand loyalty has been described as a behavioral response and as a function of psychological processes (Jacoby and Kyner 1973). Loyalty is also defined as a deeply held commitment to repurchase a preferred product/service consistently over time, despite situational influences and marketing efforts that might have the potential to cause switching behavior [8]. Brand loyalty can, therefore, be described as a function of both attitudes and behavior (habit). Dick and Basu (1994) [9]-[10] suggest that brand loyalty favours positive word-of-mouth and greater resistance among loyal customers to competitive strategies.

II. METHODOLOGY

***A. Sample*—** This research statistically is the kind of the correlation and in the term of the data collection is the kind of the descriptive – survey. In this research random sampling have been implied. According to the research hypotheses, in order to performing the investigation and testing the hypotheses of research, researchers exploit the questionnaire which is one of the common methods of data collecting ways in survey investigations.
The following result were gained for the demographic variables:
For the sex variable, from the all of the investigated items, 47.5% women and 52.5% men. For the age variables, from the all of the investigated items, 26.5 percent were under 25 years old, 40.5 percent were between 25 and 35 years old, 26 percent between 36 and 45 and 7 percent were above the 46 years old and for the educations variables, 39.5 percent bachelor and 33.5 percent have master degree or upper degrees.

***B. Measurement tools*—** In this research content validity have been exploited for the validity of the questions, also in this order to evaluate the validity of the questionnaire have been performed by the professional people in these field and also with referring to the scientific books and utilizing them a validity test have been gained.
For evaluating the reliability test, Cronbach's alpha have been utilized and the coefficients have been calculated. Additionally, the amount of the Cronbach's alpha always have been between 0 and 1, also any much closer to 1 the questionnaire has higher stability.

Table 1: Cronbach`s Alpha

Variables	Cronbach`s Alpha
Attitude toward brand	۰/896
Satisfaction Customer	۰/943
Brand Trust	۰/876
Brand Commitment	۰/931
Brand Loyalty	0/943
Whole questionnaire	0/932

In respect of that the reliability test of all dimensions and indicators is more than 0.7, thereby the questionnaire has high reliability test.

***C. Data Analysis*—**For the performing the statistic methods and calculating the appropriate test statistic and inference about the hypothesis of research, the most important step is opting the appropriate statistical methods for the investigation, for this purpose, awareness of the data distribution have priority.

The zero hypothesis in this test is that the variable distribution is normal. If the significance level of test were less than 0.05 the zero hypothesis will be rejected and we conclude that the variable distribution is not normal.

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Table2 : Results of Kolmogorov – Smirnov to investigate the normal distribution of scores

Variables	Significant	Z statistic, Kolmogorov - Smirnov	amount
Brand attitude	0.150	2.429	200
Customer satisfaction	0.560	3.053	200
Brand trust	0.530	3.623	200
Brand commitment	0.1	3.744	200
Brand loyalty	0.650	3.605	200

D. Testing the hypotheses of research—To test the hypothesis significance, T t-value have been exploited. If the absolute of t-statistic was larger than 1/96,this significant relationship between the variables is emphasized. Hence, with considering the t-value, following result have been gained from the evaluating the hypothesis of the research. Also the hypothesis have been analyzed by the structural equation modeling and with utilizing the Spss software.

Result of testing the first hypothesis: customer satisfaction has positive and significant influence in Travel and Tourism sector on brand loyalty.

According to the table3, because the t-statistic is greater than 1.96, relation in the significant level is when it would be 0.05 and due to that the Beta standardized coefficients is positive and equal to 0.488, thereby, there is direct relation. Consequently, the first hypothesis of research is confirmed.

Table 3: Testing the first hypothesis:

First hypothesis	Standardized parameter estimates	t-value	explanation
Satisfaction toward brand loyalty	0.448	6.117	significant

.According to the standardized coefficients, in this research, satisfaction has strongest effect on loyalty.

Result of testing the second hypothesis: Attitude toward the brand has positive and significant influence in Travel and Tourism sector on brand loyalty.

According to the table 4, because the t-statistic is greater than 1.96, relationship with a 0.95 is significant and due to that the Beta standardized coefficients is positive and equal to 0.223, thereby, there is direct relation. Consequently, the second hypothesis of research is confirmed.

Table 4: Testing the second hypothesis:

Second hypothesis	Standardized parameter estimates	t-value	explanation
Brand attitude toward brand loyalty	0.223	4.035	significant

Third hypothesis:Brand Commitment has positive and significant influence toward the brand loyaltyin Travel and Tourism sector.
According to the table 5, because the t-statistic is greater than 1.96, relationship with a 0.95 is significant and due to that the Beta standardized coefficients is positive, thereby, there is direct relation. Consequently, the third hypothesis of research is confirmed.

Table 5: Testing the third hypothesis:

Third hypothesis	Standardized parameter estimates	t-value	explanation
Brand commitment toward brand loyalty	0.309	4.960	significant

There are lots of investigation illuminated the direct and positive relation between commitment and brand loyalty.

Forth hypothesis:Customer satisfaction has positive and significant influence toward the brand trust in Travel and Tourism sector.According to the table 6, because the t-statistic is greater than 1.96, relationship with a 0.95 is significant and due to that the

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Beta standardized coefficients is positive, thereby, there is direct relation. Consequently, the forth hypothesis of research is confirmed.

Table 6: Testing the forth hypothesis:

forth hypothesis	Standardized parameter estimates	t-value	explanation
Customer satisfaction toward brand trust	0.625	12.513	significant

Lots of investigation have been weighing the influence of satisfaction toward the brand trust.

Fifth hypothesis: Customer satisfaction has positive and significant influence toward the brand commitment in Travel and Tourism sector.As stated by the table 7, because the t-statistic is greater than 1.96, relationship with a 0.95 is significant and due to that the Beta standardized coefficients is positive, thereby, there is direct relation.Consequently, the fifth hypothesis of research is confirmed. It could be emerged that the customer satisfaction will increase the brand commitment in this research.

Table 7: Testing the fifth hypothesis:

Fifth hypothesis	Standardized parameter estimates	t-value	explanation
Customer satisfaction toward brand commitment	0.480	6.339	significant

Beneath investigation have been assessing the positive influence of satisfaction toward the commitment and approve it.

Sixth hypothesis: Brand trust has positive and significant influence toward the brand commitment in Travel and Tourism sector. As said by the table 8, because the t-statistic is greater than 1.96, relation with a 0.95 is significant and due to that the Beta standardized coefficients is positive, thereby, there is direct relation. Consequently, the sixth hypothesis of research is confirmed.

Table 8: Testing the sixth hypothesis:

Sixth hypothesis	Standardized parameter estimates	t-value	explanation
Brand trust toward brand commitment	0.494	6.143	significant

Seventh hypothesis: Attitude toward brand has positive and significant influence toward the brand trust in Travel and Tourism sector.

According to the table 9, because the t-statistic is greater than 1.96, relation with a 0.95 is significant and due to that the Beta standardized coefficients is positive, thereby, there is direct relation. Consequently, the seventh hypothesis of research is confirmed.

Table 9: Testing the seventh hypothesis:

Seventh hypothesis	Standardized parameter estimates	t-value	explanation
Brand attitude toward brand trust	0.356	7.135	significant

Eight hypothesis: Attitude toward brand has positive and significant influence toward the brand commitment in Travel and Tourism sector.
According to the table 10, because the t-statistic is less than 1.96, relation with a 0.95 is not significant. Thereby, the eight hypothesis of research is rejected. Subsequently, it could be mentioned that the attitude toward the brand has no significant statistical influence toward the brand commitment.

Table 10: Testing the eight hypothesis:

Eighthypothesis	Standardized parameter estimates	t-value	explanation
Brand attitude toward brand commitment	-0.1	-0.155	Not significant

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III. Conclusion and Suggestions

In this research, the satisfaction, attitude toward brand and brand commitment have been introduced as constructive variables of loyalty; which the customer satisfaction has most key direct influence and after that, brand commitment, and finally, attitude toward the brand are effective on brand loyalty. Additionally, according to the emerged results, brand commitment is intermediary of relation between customer satisfaction and brand loyalty. Which means, satisfaction has direct and indirect effect on brand loyalty, the direct effect (0.397) and the indirect effect (0.216) is affected by the influence of the brand commitment on brand loyalty. In addition, brand commitment acts such an intermediary in the relationship between attitude toward the brand and brand loyalty. Direct effect of attitude toward the brand on brand loyalty is equal to 0.232. However, due to that, the relationship between attitude toward the brand and brand commitment is not significant, thereby, the indirect effect of attitude toward the brand on brand loyalty is scarce.Brand trust is acting like an intermediary between satisfaction and brand commitment.

So that, direct effect of the customer satisfaction on brand loyalty is equal to 0.348 and indirect effect (Reliance to the brand trust) is equal 0.244 and, thus, the whole effect of satisfaction is equal to 0.572.Additionally, brand loyalty in the relation between attitude to the brand and brand commitment is acting like an intermediary. Due to the refusal of the eight hypotheses, there is no direct and no significant relation between attitude to the brand and brand commitment, nevertheless, attitude to the brand via brand loyalty on brand commitment has indirect effect and is equal to 0.150. Moreover, brand trust has indirect effect on brand loyalty and is equal to 0.072.

In today's competitive market**,** companies must always laboring to save their customers, because losing one customer has considerable costs rather than finding a new customer. Companies for accumulating the continuous commitment between their customers should increase brand loyalty and customer satisfaction. They could increase brand trust with giving believable assurances which they have experts in that fields and promises and prevent transferring their customers to be persuaded by other companies.

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ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 32-39

Study on the Part of Niche Marketing on Resistive Economy Marketing of Iran

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Abstract**—**In the today's world, and in consideration of the embargos exercised for our dear homeland, Iran, acquiring more share from the consumption market of the country, is the main purpose of the marketers, and in such conditions, application of the scientific principles and techniques in marketing is becoming more important than the past. In consideration of the undesirable economic conditions of the customers, Resistive Economy Marketing pays more attention to creation of the products and rendering services in proportion to the demands and needs of the customers instead of search for finding customer for the products.Therefore, SALE is considered as one of the most important marketing duties, and if the marketer achieves advancement in recognition of the customer's demands, production of the desirable goods, pricing, distribution and advertisement, then the goods will be easily sold. In this process, the environmental factors should be taken into consideration, such as the population factors, natural factors, technological factors, political factors and cultural factors. In accordance with the commands of the Supreme Leader of Islamic Revolution of Iran to the effect of creation of morale and Resistive Economy, the entrepreneurs have in their mind to establish new business, therefore, they should carefully select their target market.

They should not try to overcome the entire market and produce and manufacture any product. But, they should first find a distinguishable section and render seemly services to that section. In consideration of creation of the substructures, Niche Marketing is a solution which may help the respectable entrepreneurs of our homeland in selection of the target market. In this method of marketing, generally, only one business may be present as the supplier of goods and services at that section, and such a matter not only may take away the business from the competitive threats, but also may make high level of profit for the business.

Researchers of this paper have made field work study, library studies and interviews with the managers, entrepreneurs and active marketers of this field, and examined Niche Marketing methods, its definitions, nature, defects, opportunities, marketing mix in Niche Marketing in our dear homeland, and invite you to study the present research and get accustomed to the specifications, opportunities and challenges in the way of this special method of marketing, which may be considered as a key for the problems in the field of marketing of the new products and the small business in the existing conditions of our country and Resistive Economy of our dear homeland.

Keywords**—**Marketing- Market Research- Niche Market Products- Marketing Strategy- Marketing Mix**.**

I. INTRODUCTION:

INconsideration of the commands of the Supreme Leader of Islamic Republic of Iran to the effect of this matter that the economy of an Islamic Country which is fighting with the arrogance bloc should be a Resistive Economy, and taking into consideration the economic status of our dear people of our country, the marketing space of the products is very different from the past times. In consideration of the prevailing space on the Iran market, we may consider the Niche Marketing as a trouble-shooter of the present marketing space of our country. Together with the science and technology to become more specialized, the demands and markets may move toward becoming specialized.

Being active in another vast scale is even beyond the capacity of the greatest and grand companies. Such a matter will be more difficult for the small and average-level companies. Small and average companies, and especially, the entrepreneurs who have in their mind to establish a new business should carefully select their target market, as, not only there is no noticeable competitor at that section of the market, but also that market is of an appropriate potential market volume. One of the most optimum solutions and techniques for such an action is to find a disparate market or a Niche Market.

The main center of the attention and action in modern marketing is to draw the satisfaction of the customer and give value to the customer, so that the customer would be drawn toward the product or services in question. In the present paper, the methods of Niche Marketing (Niche), its

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definitions, nature, defects, opportunities, marketing mix in Niche Marketing would be discussed and examined.

II. THEORETICAL FUNDAMENTALS OF RESEARCH

What is Niche?

Now we want to look at the concept of Niche Market. NICHE in English means the dent of the wall or shelf, and in Marketing, it means the sections which are out of the main market and far from the attention of the great competitors. The word NICHE derives from a French word, which means to nest.

Different definitions are presented about Niche Marketing:

- Niche Marketing is to target goods or services toward a small part of the market for which the existing goods or services could not desirably meet the needs (Bigdelu- Mehdi- 2006)
- Niche Marketing is a subgroup of a part of the market which includes the needs not met (market emptiness), and as no body have met such needs up to now, this section needs payment of extra money (Price Premium) for meeting its needs (Dr. Asadolahi, 2012)
- A small part of the market in which we are the leader of the market and we have the most share (Dr. Asadolahi, 2012)

The phrase "Niche Market" was first applied by the ecologists for definition of the status of the kinds and application of the resources inside the environment, and when this phrase was used in Commerce, it meant the status of an activity which was completely appropriate for a person or a kind of personality, and such a concept was developed from the persons to the market goods.Niche Market comprises focusing on a target section (subset) of a market section. On the basis of the definition, a business which is centralized on a Niche Market, is in the process of meeting the needs of the persons for a kind of product or service, which may not be met through regular ways. It is conjectured that a Niche Market defines only a small group of the potential customers. As, a Niche Market, in its stern status may be a proper work status or a geographical place for a person who possesses such a market, Niche Market may be completely in proportion to the product of human resources. More or less, every business has been started in order to occupying the empty and vacant positions (meeting the non-met needs). Yet, Niche Marketing relates to the small and average business, which produces a special product or renders a special service for a limited section of the market. On the basis of the record related to Niche Marketing, the researchers have concluded in this manner that the Niche Approach includes 3 aspects: *market, product and strategy*.

Niche Market Aspect is concentrated on special persons and consumers, all belonging to a single section, and, subsequently, the company would find and supply a product related to that Niche Aspect. Such a strategy is taken into consideration as an instance of Pull Marketing.(Shani, Weinstein and Chalasani, 1992 and 1994). Niche Strategy focuses on the company and the modality of execution of Niche Approach by the company. (Stanton and Linneman 1991). Kotler 2003 explains that, in spite of this matter that the strategy is of pull or push kind, the most important matter in success of a strategy is **Specialism or Specialization-orientation.** Product of Niche Market is of the following specifications:

- Customer present at Niche Market have a complex of distinguishable needs.
- Customers pay much money to the company which supplies their demands in the best manner.
- Niche Market probably will not attract other competitors.
- The company who has in view Niche Strategy, would find economic advantage through Specialism/ Specialization-orientation.
- Niche Market would have market volume, profit and potential development (Kotler 2003).

Because of low fixed expenses and high flexibility, the small business would be able to identify the non-met needs of the small sections of the market, quickly, and create goods or service without spending much money for research and development in line with its supply.As a Niche Market has limited consumer, the great and large companies would not be able to increase the production and optimum application of the economization arising from the scale, and therefore, entering into such a section would not be economical for them. In this manner, the companies who enjoy low fix expenses and high flexibility are more successful. This part of market will mostly achieve high level of profit even without high level of sale, because of focus and specialism/ specialization-orientation of business and absence of any competitor. Niche markets may exist on the basis of the geographical region, a specialized industry, age or race groups or any other special group of other people. Sometimes, a new product for a Niche Market may be resulted from improvement and adjustment of the customary products produced by the great companies. Evidently, in every industry, there might be a situation for Niche Marketing.Sometimes such kind of marketing includes a very narrow domain, that the product is produced for a small group of market. In this marketing method, goods or services are aimed toward a small part of market of which needs have not been met by the existing goods and services.This word is called "Niche Marketing", because, through which, the entrepreneurs have identified the special locations of the market (small parts of a great market with non-met needs, which have not been taken into consideration of the existing

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companies), and have proceeded to import that part, and after importing and offering the goods and services required by them, it will fill that part of the market. If at the beginning of the work, an entrepreneur wants to enter into a great market, and offers a product to the customers and consumers, the entrepreneur should compete with lots of competitors, and its product may be of low level of desirability from the point of view of the consumers.But the entrepreneur may enter into a Niche Market, and may offer goods and services which is of high level of desirability for a few people, instead of being desirable for many customers with low level of desirability.

III. Nature of Marketing in Niche Market/ Special Products:

Niche Market Aspect is concentrated on special persons and consumers, all belonging to a single section, and, subsequently, the company would find and supply a product related to that Niche Aspect. Such a strategy is taken into consideration as an instance of Pull Marketing.(Shani, Weinstein and Chalasani, 1992 and 1994). Niche Strategy focuses on the company and the modality of execution of Niche Approach by the company. (Stanton and Linneman 1991). Kotler 2003 explains that, in spite of this matter that the strategy is of pull or push kind, the most important matter in success of a strategy is **Specialism or Specialization-orientation.** Product of Niche Market is of the following specifications:

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Nature of Marketing in Niche Market/ Special Products

Marketing in Niche Market is the process of finding and rendering service to the profit-making sections and market and to design products or customer-oriented services for them. For most of the companies, their market section is very small in order to be profit-making and is free from economy of scale.Marketers of Niche Market most depend on loyalty to the profession to keep the profit-making volume of the scale. Niche market may be the geographical location, a special industry, a special race or group or any other group of people, and sometimes, goods of Niche Market may be different from the prevailing goods, which may not be manufactured or supplied by the main marketing companies. Marketing in a Niche Market is defined as rendering services in a unique market or a unit part of a public market, which is not permanently rendering services.

Some markets of Niche Markets begin with the feeling of a person, whose satisfaction is not drawn by the existing products.Some markets of Niche Market are smaller than the goods markets, even though, some of them have a cash flow of many million dollars. At the time of marketing for the products of Niche Market, the customers expect the marketers to meet their needs in proportion to their demands and interests. Such a matter means manufacturing products of

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unique specifications and applying such specifications as a basis for marketing. In this form of product marketing, the target is to manufacture a product different from other sections of the market. Distinct products should meet the needs of the customers, but such products are active in an environment which is of lower level of competitiveness because of the unique specifications of the product. Marketing in Niche Market may be found in any place. Sometimes, Niche Market is very limited and its aim is only a small group in a market. Hybrid Automobiles of Toyota may be an appropriate example of Niche Market. TOYOTA, a multinational automobile manufacturing company, whose products are bestseller throughout the world, manufactures its hybrid automobiles for a small part of the market who demand the company to manufacture such products with high price. Against the production line of the regular automobiles, which manufactures thousands of automobiles in a day, the rate of manufacturing such kind of product is low and its customers are very special people.

In continuation, we briefly express the concept and nature of Niche Market:

1. A factory which is able to create demand, will always be able to create a business space in spite of existence of permanent changes in economic and social conditions.
2. A business which is made by a vast vision, is arisen from a main change and ideas arisen from such a change.
3. Niche Market offers new business opportunities.
4. In connection with the changes in living methods, the new business is always forming, and many companies are not able to benefit from such opportunities and compare their product with the existing conditions.Niche market give us this opportunity.
5. Whether small or large, there is no boundary for completion of Niche Market. When a Niche Market is tested, sensible changes may be observed.
6. Successful business of Niche Market, may meet the needs and supply the new created demands in consideration of enactment of the legal regulations.
7. Profit arising from the business and trading in Niche Market is unlimited, whereas, profit arising from the past business is limited.

In consideration of the above image, the structure and basis of marketing strategy in Niche Market is shown as follows (Figure 1):

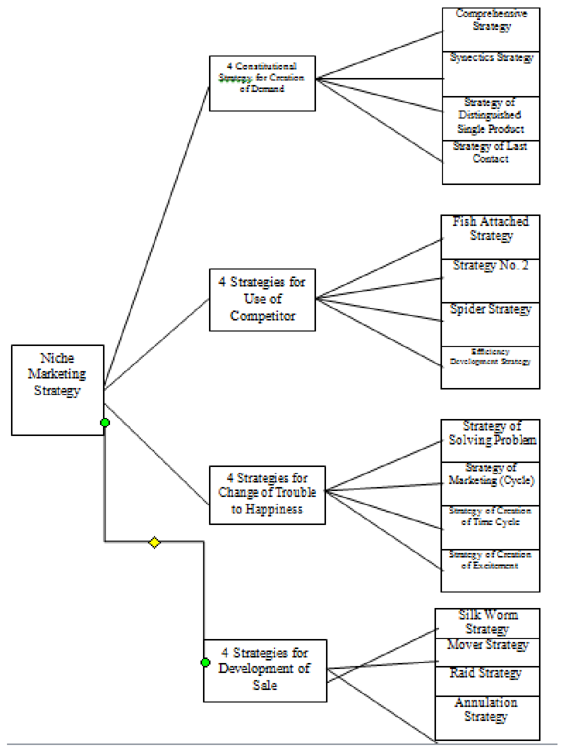

Figure 1. Structure and Basis of Marketing Strategy of Niche Market (Mehdad. M, 2009)

IV. RESEARCH RECORD:

Small Business in United States of America: For the first time, Niche Marketing was applied in Ohayo State in order to develop the small business. Entrepreneurs who are willing to establish new business should carefully choose their target market. They should not try to overcome the entire market and manufacture any product. Perhaps, they should first find a differentiated market or Niche Market and render admirable service to that market.

Niche Marketing and Iranian Entrepreneurs: As this kind of marketing was newly-established and, because of existence of virgin splits in the field of marketing of sanitary products, the marketers of our dear homeland first applied Niche Marketing for marketing the sanitary products (kid diaper). Niche Marketing is a technique and solution which may help the entrepreneurs in choosing the target market with this respect. In this method of marketing, only one business will be present at that section as the supplier of goods and renderer of services, and such a matter, not only will keep away the business from the competitive threats, but also will make high level of profit for that business.

Niche Marketing in South Korea: Niche Marketing was applied in South Korea in the year 1970 for the first time. Such kind of marketing was applied for presentation of the

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new products by the name of Energy Drinks and Herbal Drinks to the special customers.

V. *RESEARCH DISCOVERIES:*

Reasons of Importance of Niche Marketing in Resistive Economy of Iran:

In consideration of the existing conditions of the countries, and preparation of the business to encounter with more embargos, and on the other hand, preparation of the conditions of Resistive Economy, most of the entrepreneurs think that if they offer their products to the most developed markets, they probably will take steps in line with success. They are fearful to take in their consideration a Niche Market. Because they think that their business may be defeated after losing the customers. But the approach of Welcoming All is not effective more. When an entrepreneur takes into consideration a market for business, without designating a characterizing feature, durability and survival of his business would be difficult. Business owners, mostly, think that the Niche Markets may limit their level of sale, or may decrease their margin, and therefore, they fear of the same.But, in reality, a Niche Market may be defined as a component, which may empower the business. A Niche Market may make it possible for you to exactly define the addresses of your marketing. When you know that who have you addressed for your business product, you may simply determine that where would you spend your marketing expenses and power. Great business, usually, engages in Multi-level marketing, and its target is any person. They possess great budgets which authorize them to engage in such kind of marketing, and they, frequently, identify the mass population, and will have the minimum level of success in this method. In any case, for the smaller jobs, which have no market, or are not able to meet the needs of the mass population, the marketing of Niche Market may be more effective. Because it is able to provide a manageable size of the market and focus on its marketing. Marketing of Niche Market permits you to create market for your ideal customers, and helps you to find your ideal customers.Furthermore, when you possess a Niche Market, the potential customers are able to make decision with this respect that if your services will meet their needs and will they be satisfied with your services or not? Another advantage of having a concentrated Niche Market is easy identification of work field, and as a result you may be specialized in that field. When in a special field, the customers need benefiting from the others' experience, they will remember you. When you own a Niche Market, marketing on network will be easier. In today's busy markets, having a Niche Market is necessary and more essential.If you want to be successful in marketing, you should find a way to drug out yourself from such a busy market, and a Niche Market will help you with this respect.The most difficult challenge in stable Niche Marketing, is to break the old models of mass industrial marketing, those started their work as a marketer of Niche Market, and, more or less, all of them returned to old thought-based methods of mass marketing.In the fields of pricing, advertisement, publicity, expenses, facilities, product appearance, turnover of goods at the warehouses and other fields, marketing of Niche Market needs modern and non-contractual methods of thought and activity. But the marketing of Niche Market is considered as a future wave. Even, the great and large institutes are moving from mass marketing and they try to connect their production/ manufacturing to more narrow Niche Markets. Small producers (manufacturers) may compete in the markets of Niche Market.

Because of the following reasons, describing Niche Market before establishing a business is important:

- Business owners may be able to maximize their marketing budget through targeting completely defined Niche Market.
- Business may provide solutions and products for other issues and problems with which the customers of Niche Market come face to face.
- A defined Niche Market may simply offer ideas for new products and services, which may be demanded, by nature, on the part of a special Business Niche Market.
- Business, in its introduction, may get advantage as the market leader in that Niche Market.

Advantages of Niche Marketing in Resistive Economy of Iran:

Synchronic with increase in speed and development of communication, and in line with the same, development of achievement to the information and the embargo environment of the country, the companies of highest level of flexibility may take advantage of the opportunities. Because, after this, only having high level of share in the market and benefiting from thriftiness arising from the scale resulted by the mass production may not be answerable. A home business may supply the hidden demands that the great companies may not react regarding those demands, or may not consider such demands as noteworthy demands. Importance of the subject is resulted from this matter that, in Niche Markets, the expenses and prices may not be considered as the main competitive advantages, but, quick identification of the tastes and needs, and subsequently, immediate reaction to the same, which may be conducted through design of the appropriate goods and services, may score an advantage for the company.Niche marketing in Resistive Economy Environment of the country is a perspicacious choice for the entrepreneurs and the owners of small and home business, who have limited budget for advertisement, publicity, distribution, market research and

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even mass production. Why and how should a small business, at the beginning of the work, send its advertisements and publicities for the large and great part of the market? Even if, the owner of such a business is that much overambitious and generous, that advertise and publicize via nationwide wide-circulation newspaper or television network, and, supporting that, a reasonable percentage of the market are willing to have the company products, will the manager be able to supply the demand more than the capacity of the company? For instance, if an Edible Mushroom Production Company, has a production capacity of 3 tons, and after television advertisement about the properties and qualities of edible mushroom it receives a demand of 1000 tons, would it be able to supply such a demand on a desirable and fruitful basis?

Or by wasting the resources which may be used in another field, it will allot a godsend opportunity to other direct or indirect competitors. In reality, that company prepares a large cake from which it only uses a small part. This matter applies to the distribution expenses, market researches, sale by credit, discounts, etc. In addition to such a company, which considers the entire market as its addressee, by engaging in such scale of activity, it will experience fight with super competitors. Without any attention to the conditions of Resistive Economy, the great companies do not make any effort in order to identify the non-met needs of Niche Market. Because, in consideration of the high expenses of market researches, research and development, prevalent bureaucracy and other limiting factors, the benefits of achievement to that Niche Market may not gain any economical profit as regards its expenses.

Because in this small part of the market, mass production would not utter the last word and the demand and production are limited. But for small business and the independent entrepreneurs, such opportunities may be considered as golden opportunities, that the benefit arising from reaping the benefit of the opportunity is more than the expenses of achievement of such opportunity.

Introduction to Niche Marketing Opportunities of Resistive Economy:

Usually, there is a few differences between recognition of potential opportunities of business and recognition of Niche Marketing opportunities. Sometimes, the entrepreneurs will be placed in Niche Situation, without any prior plan. For instance, may be you need special goods or service, whereas, in your region, you may not find and achieve such goods or service. Thus, you decide to provide such goods or services in person. Soon, you will see that the others will demand and request such a product from you.

Therefore, a way for recognition of the potential opportunities for Niche Market is to think about such goods or service that you need. Furthermore, may be, in the society in which you are a member, a person comes to you for consultation, assistance or taking any special service. Do you have any special specialization in a domain which is the need of some people? Can you receive any money regarding such goods or services? For instance, your family traditionally have the science to prepare herbal medications, and you have such a science for meeting your own needs. You may develop your skills, render such a service to your friends, attendants and acquaintances, and next, you may make profit and income by rendering such a service to the public. You may also identify the opportunities of Niche Market from the lectures you hear, papers you read or other occurrence which may draw your attention. A person may suggest you to supply goods or service for a special market. You may get subjects from a lecturer who discusses about the development plans. You may read subjects about the deficiencies and defects of the present products and demand and need for the special goods or services for definite parts or sections of the market in the magazines or newspapers. Such kind of information may create a spark in your mind or make a vision which may result in establishing a business based on Niche Market. Some people have some amusements, which may be in line with an opportunity of Niche Market. For instance, in this field, we may name the arts of confectionery or pottery or even cooking some foods. Sometimes, you are among the few persons, who know the recipe and skill of cooking some foods, whereas, the others are ready to pay money for that food. Furthermore, in consideration of farness of the competitive space of Iran market from other markets of industrial countries, and disconnection with that markets, sometimes we may receive some ideas from the foreign companies and business and implement the same inside the country. For instance, we many name delivery of ready food on door. Furthermore, in communication epoch, the small tastes may easily find each other and may create a situation for business opportunities.

Choosing Appropriate Niche Market for Existing Business in Iran:

Fitting into a Niche Market means you would not compete only on price with a large number of similar business. Furthermore, as you want to produce and manufacture goods and service for supplying the special demands and also for a selected group of the people on an ordered basis, you may request higher price. Your goods and service will be rendered to a market for which you may not easily find a replacing market. Niche Market will give you focus on the marketing efforts. The more the specialization of yours, the more the value of your services from the point of view of your target market, because you directly talk to the unique situation of them.

Such a process begins with market research. Analyze your best potential customers, competitors, market attitude and sensitiveness regarding your goods, services and capabilities

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in order to render service to these persons to the extent that they know you as the supplier of such goods and services. Market research is similar to submerging the foot fingers in order to test the temperature of lake water before jumping into the lake. If you exactly know what kind of people you are looking for and if you know their needs, you will prevent wasting money and time. Because you know that you are able to reform your goods and services in proportion to the demand of your target market. Market research does not need expensive consultation and investigations and formation of society group, and you may easily ask the prevalent questions from your best customers. Answering the following questions may help recognition of Niche Market for the existing business.

- Now, who are the present customers of business? Does our business deal with a differentiated target market which has collaborative needs and interests?
- Is the market large enough to support our business?
- What is the difference between the products we offer and the services we render with the other products of this industry? How can we make such a difference?
- Can we adjust the goods, services and our business identity in order to meet the special needs of the market?
- Can the existing products draw the satisfaction of the target market?
- Can we reach our potential customers with a functional and cheap method?

The best way to answer such questions is not to analyze the same in detail. We should only write the first cases we think about. Then, you will be able to analyze the answers, and thus, you may easily define your Niche Market.

Mix of Marketing in Niche Marketing in Resistive Economy of Iran:

P4 in Niche Marketing is a little different from other marketing method. In Table 1, the type and modes of each variant is presented for two hypothetical samples.

	Type	Sample 1	Sample 2
Niche Market		Students and researches who are willing to purchase a lot number of books per year, but they do not have enough budget	Persons who are allergic to dairy products produced by cow milk
Product	Special operation	Internet sale website, only for second-hand books	Production of dairy products with goat milk
Price	Higher than the price of the public products	Price less than the price of the back cover, but the cost of delivery will be received	A little more than the products produced by cow milk
Distribution	Through special stores with direct delivery	Direct delivery	Through super markets
Promotion	In special and specialized media	In student publications, scientific societies, university boards, internet groups and the related websites	Advertisement in mega markets, introduction to the physicians, dairy products stores

Table 1. Marketing Mix for Niche Marketing

But, how could our small business in Resistive Economy, conquer the small markets of our country?
The answer of such a question will be found in continuation:

1. Have a unique product or service: For you that are willing to take possession of Niche Market, having a unique product or service, which has not been offered in another place, is the first step.
2. Your product or service should be accepted by the market: If your product is unique, but the customers do not need the same, this product will be completely useless. Therefore, enough demand should be present for your unique product or service. As you are a small business, you do not need a public demand.
3. Existing Niche Markets in the Country: Some Niche Markets have been previously identified by the others and at present such markets are the business supplying the demands of that section or part. Does this market have enough capacity to accept your business?
4. Market, Marketing: Be sure that, if marketing is necessary for active business at other sections of the market, it is vital for your business in Niche Market, and without marketing, your business shall not have any meaning.
5. Test your product at the market: Without testing the product, do not officially enter into the market.

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Behavior in Niche Markets is usually more unknown and, without entering into such a market, you may not guess its behavior. Do not forget the market test.

Right choice of Niche Market, offering unique and appropriate product to Niche Market, marketing potential customers at Niche Market, etc. would direct your small business toward success at Niche Markets.

Start your business:

Starting the work and creation of a strong business is a process as follows:

1. Identify the difference and all characteristics of a special market to which you have in mind to render your service. Such characteristics and features include demographics (persons who are subject matter of your attention at the market in question and their particulars), geographical domain, structure and modality of pricing, cost and expenses of rendering service to Niche Market, obstacles that you foresee to encounter with, privileges and authorizations required, etc.
2. Write your aims in a piece of paper. Determine the necessary resources (capital, land, human resources, science, talents and special skills) in order to render services to that market.
3. Specify the resources which are not available for you, and determine the modality of reaching or compensating the same.
4. Prepare the plan of your business and marketing. Such a plan should include the following cases:

a. General explanations about the business
b. Market analysis
c. Assignment statement, goals and strategies
d. Marketing plan
e. Explanation about operational aspect
f. Time schedule of sale
g. Financial plan
h. Sensitiveness analysis
i. Aid resources

VI. Conclusion:

In consideration of the commands of the Supreme Leader to the effect of this matter that the economic space of the country should be resistive, the conditions and the effective factors on the marketing style of the country will be involved in alteration and sobering changes. Therefore, threats and virgin and tempting opportunities may appear in economic space and the marketing style of the country. In consideration of the changes made, it would be impossible to apply the strategies before the approach of Resistive Economy for the present conditions. Therefore, Niche Marketing may be the success key in marketing of Resistive Economy and the present conditions of our country. Without paying attention to the present changes in the competitive environment, the various business may be easily crossed out of the competitive space, but the entrepreneurs and the marketers who may carefully analyze their environment and apply Niche Marketing Strategy, may pass the present conditions and conquer the problems they encounter with.On the other hand, by the application of Niche Marketing in Resistive Economy of the country, the marketers may take into their consideration a special decile of the society and meet the needs of that special stratum, they may pass the present agitated space, and such a matter shall be subject to careful and exact examination of the needs and the demands of the customers and marketing mix of that business.

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ISSN (Online): 2305-0225
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The Determination of the Parameters and the Gap of Effective Factors in the Occupational Life Quality among the Staff Members from the Organization of Industry, Mining, and Trade in the Province of Yazd

Mohammad Saeeda Ardakani, Alireza Naser Sadrabadi

***Abstract*—** The aim of this study is to determine the parameters of occupational life quality in the organization of industry, mining, and trade from the province of Yazd. In this research, the identified parameters were ranked using the gap analysis and the TOPSIS Fuzzy method. First, the most important parameters of occupational life quality were clarified by the review of literature and the history of research in this area. According to this process, the questionnaire was designed and, after being validated for reliability and validity, the required data were obtained by distributing the questionnaire among 74 members of the staffs working in the Industry, Mining, and Trade organization in Yazd, and later, the completed questionnaires were collected. The results of the study demonstrated that there is a significant distance between the status quo and the favorable standard status. From the identified dimensions, the payment illustrates the widest gap between the status quo and the desire status. The following ranking through the TOPSIS Fuzzy method also illustrated the priority of the payment dimension compared with the other dimensions of organization, psychological security, the learning and growth environment, the growth and security environment, the creativity environment, job security, the physical and social context.

***Keywords*—** Gap analysis, occupational life quality, , ranking, TOPSIS Fuzzy.

I. INTRODUCTION

ORGANIZATIONS document are, in the wide sense of the word, the main pillar of the present society and management is the main pillar in the life, growth, prosperity, or death of the organizations. No doubt, this is the managers' duty, based on organizational objectives, to guide the movement from the status quo to the desired status. On the other hand, worldwide changes makes the organizations encounter many problems and alterations everyday. These changes have also caused many new theories of management to appear, and it can be said with certainty that during the twentieth century hundreds of such theories were presented. The gist of the texture in all of these theories is emphasis on the important role of management and efficient human resources in achieving organizational objectives; because it is desirable in management that the staff members feel accepted by the organization and feel that they are involved in the affairs and, in this way, feel self-esteem, so that job satisfaction and cooperation with the managers improves [1].

Human resources are the central factor in promoting the organizational actions. A desirable working environment is very important to the staff members. A workplace which is compatible with the expectations of workers causes a positive outlook among the workers, strengthens the sense of being satisfied with the job, and promotes higher performance while happy members are said to have a better and more standard performance [2]. Moreover, the psychological needs of the workers in an organization will be satisfied by applying the techniques of occupational life quality. In fact, improvement in occupational life quality strengthens the psychological relaxation and the motives for making progress among the staffs members [1]

In 1390, the ministries of Industries, Mining, and Commerce merged in order to consider the decisions about the protection of the consumer and producer rights. It seems that the positive performance of the ministry of industry, mining, and commerce for the community is dependent on increasing the feeling of occupational satisfaction among its staff members who have dealt with a different audience and have had different objectives in the past under the ministry of Trade, Industries, and Mining. Considering the important role of this ministry in serving the producers, importers, distributers, and the different business people, an increase in

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the high quality performance among its members can be followed by a better performance in the business and trade in the province. The desired quality of occupational life will lead to more commitment to organizations, more sense of duty, and more capacity for the organization to achieve its goals[3]. Knowing the importance of this issue, this paper is an attempt to identify the level of importance of the occupational life quality parameters from the perspective of the staff members belonging to the organization of industry, mining, and trade in the province of Yazd, and to give practical solutions by finding the condition of these parameters and clarifying the possible gap between the desired and the present status. In this study, with an identification of the degree of importance of these parameters which refer to the perception of their physical and psychological needs being satisfied, among the workers, and also with an identification of the present condition of these parameters, the gap between them can be illustrated and can be filled, so that more quality and quantity is added to the staff performance and more to the services that the organization can give the community.

II. Theoretical Literature and the History of Research

A. Defining the occupational quality of life

Scientists in the area of organizational management have expressed different viewpoints on the occupational life quality. Next, some definitions of this term from the related literature have been presented.

In 1977, the American central base defined the occupational life quality in this way: occupational life quality refers to the activity that occurs at any level in the organization, the aim of which is adding to the efficiency of the organization through upgrading positions and providing facilities for more individual promotions. The occupational life quality is a process through which the shareholders, the managers, the union and the staffs learn how to deal with one another, describe their own activities, and set the essential improvements in place so that the occupational life quality of all the members working in the organization and also the effects of the company and union are simultaneously reached [4].

Vecchio is of the opinion that the occupational life quality is not a combination of fixed techniques; rather, it is seen as a method that seeks improvement in workplace or in minor units. He defines it as the simultaneous achievement of psychological health among the members and the organization output [5].

Occupational life quality is of the methods in an organization designed to achieve progress which endeavors to encompass the three factors of motivation and satisfaction, responsibility and commitment to the job at the same time. In other words, it is a technique of improving the work conditions in an organization by making the workplace more humane and democratic, so that all the workers are allowed to participate in decision-making [6].

In fact, all the definitions of occupational life quality have objective and real realities that, despite essential differences, correspond to one another and cause one concept to be evoked. A conceptual image of the mental and objective definition of occupational life quality is brought in figure 1.

Figure 1: the abstract and objective definition of occupation life quality[3].

As you can see in figure 1, the occupational life quality in abstraction is one's impression of the work environment and conditions in a way that one feels happy with the fulfillment of one's personal needs (material and immaterial) with experiences and endeavors. And from the objective viewpoint, it is illustrated by the terms and rudiments that involve sending this concept from the environment to one' mind which includes: fair receptions, the challenging work, the quality of light in the workplace, the neatness and safety in the workplace, and job security [3].

The dimensions of occupational life quality

The researchers have already determined different dimensions and parameters for this topic [7].

Considering the distinctions in understanding the occupational and professional life quality, the research done in this area have shown that some of the parameters are common in most societies. To give examples, we can name the income and other privileges, welfare and medical services, insurance and pension, and other similar points [4].

B. Review of the previous studies

Now, some of the results and findings from the previous experimental studies will be reviewed. For this purpose, in the first part, we will see through some domestic research and in the second part, some studies from abroad will be investigated.

[1] In a research titles as "the relationship between the professional life quality and organizational commitment among the employees of the high office of physical education in Isfahan", investigated one of the major outcomes of professional life quality which is organizational commitment. The descriptive-correlation research method was used and the statistical population comprised of all the employees in the Isfahan physical education section. The findings showed that there is a significant positive correlation between the occupational life quality and commitment to the organization among the sample members. Also, the regression analysis showed that emotional and normative commitments are influenced by the professional life quality among the employees of the high office of physical education in Isfahan [1].

[8] did a research on the relationship between professional life quality and organizational performance among the companies

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in the second the fourth areas in gas transportation. The results demonstrated that there is a significant relationship between the four features of fair and adequate payment, safe and healthy working condition, growth opportunities, permanent security, and social dependence in the occupational life and organizational actions in the gas transportation operation companies in the second and fourth regions. But no significant relationship was found between other features like legality in the organization, the general life environment, the coherence of occupational life, the development of human capacities and the organizational actions [8].

Soltanzadeh et al (1391) in a research titled "an investigation of the relationship between the occupational life quality and the job satisfaction among the professors and instructors at Shiraz University" tried to investigate another key outcome of occupational life quality. The results of the data analysis betrayed that there is a significant relationship between job satisfaction and occupational life quality. From the features of life quality, the legal basis in organizations, social unity and solidarity, social and professional life dependence were the predictors of the level of job satisfaction among the sample members [9].

[10] in another study titled "their relationship between professional life quality and stress on the job among the employees of the shahid and Isargaran foundation in the province of Hamadan" researched the extent of stress and the same dimension. The results demonstrated that the life quality among the aforementioned employees was on the average, and there was a significant relationship between the occupational life quality and education and professional experience. In addition, based on Pearson's correlation coefficient, the relationship exists also between mean score of occupational life quality and stress on the job [10].

[11] had a research on the occupation life quality among the full-time professors at Islamic Azad University, the Garmsar branch. The results indicated that the sample members have evaluated their occupational life quality within the dimensions of job satisfaction, scientific growth and professional progress, participation in undesirable scientific communities, as unfavorable and low. In the two dimensions of scientific freedom and professional ethics their evaluation was on the average. The other results of the study showed that the age variables and the variables of experience, university degrees, and the academic rankings of the professors had no impact on their evaluation of occupational life quality within the university [11].

Gifford et al (2002) have a study titled as "the investigation of the relationship between the organizational culture and the occupational life quality among the nurses" which was done in the state of Colorado in the US. The results showed that the organizational culture of the hospitals and medical institutions affect the nurses' professional life quality. The other findings of the study included indicated the positive effects of the professional life quality on organizational commitment, occupational involvement, and job satisfaction among the nurses. Also, the occupational life quality can cause less demands for transfer among the nurses and their loyalty to the organization will be enhanced in this respect [12].

[13]did a research with the intention of investigating the impacts of occupational life quality on the occupation performance among the government employees in Malaysia. The results showed that all the dimensions of occupational life quality have a positive effect on the employees' professional actions. From these dimensions, individual and familial life quality had the deepest effect on professional performance. Also, the results showed that occupational life quality can improve job satisfaction among the employees [13].

[14] in a work whose title was "the organizational culture, the professional life quality and the organizational effectiveness in the training hospitals in Korea" investigated the effects of occupational life quality and the organizational culture on the achievements in organizations. The required data were collected through questionnaires that were distributed among 145 nurses. The results demonstrated that all the dimensional of professional life quality had a positive and significant relationship with the organizational achievements [14].

[15] did a research with the intention of comparing and examining the link between moralities (ethical beliefs) and occupational life quality in the United States and Thailand. In this research, a hypothesis concerning more ethical contributions to work quality in Thailand was presented compared to the United Sates because of its social culture which is individualistic. The data were collected through questionnaires among the marketing managers of the accepted companies in the Stock-exchange in America and Thailand. The results showed that the hypotheses were confirmed and more contribution in this regard is to be expected in Thailand [15]

[16]in a research, the title of which was "predicting the intentions of giving up one's services among the nurses based on their professional life quality" investigated the relationship between these two factors. 1283 nurses from 7 hospitals in Taiwan filled the questionnaires used for data collection. The results demonstrated that all the dimensions of professional life quality can significantly decrease the intentions for giving up the jobs among the nurses. Also, education history and degrees below high school and working in a non-training hospital have a negative relationship with the occupational life quality [16].

III. RESEARCH HYPOTHESES

Primary hypothesis:

There is a significant relationship between the perceived professional life quality and the desired status.

Secondary hypotheses:

1.There is a significant relationship the perception of fair and adequate payment and the desired status.

2.There is a significant relationship between the perceived safe and healthy workplace and the desired condition.

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3.There is a significant relationship between the perceived growth opportunity and permanent security and the desired condition.
4.There is a significant relationship between the perceived legality and the desired condition.
5.There is a significant relationship between the perceived social dependence and the desired condition.
6.There is a significant relationship between the perceived general life environment and the desired condition.
7.There is a significant relationship between the perceived unity and social solidarity and the desired condition.
8.There is a significant relationship between the perceived the development of human capacities and the desired condition.

IV. Research Methodology

The current study, in purpose, is an applied (practical) study because the managers of the organization of industry, mining, and trade in the province of Yazd can use the findings of this study in improving the occupational life quality among them. Also, the study is a descriptive-analytic one in method, because it aims at describing and comparing the status quo and the desired status of the dimensions of professional life quality from the perspective of the employees in the target organization.

A. The research statistical population

The statistical population of the current study comprises of all the employees of the industry, mining, and trade organization of the province of Yazd that can be viewed as a population with limited size. According to the recorded information in the organization, the number of working employees in this organization is 80 people. In this study, we attempted to use a census method to distribute the questionnaire. So, the research questionnaire was given to all the employees. After omitting the defective questionnaires, informational from 74 questionnaires were analyzed.

B. The reliability and validity of the study

In this study, the standard questionnaire of the professional life quality was derived from the management research book [17]. The questionnaire has two general parts. In the first section, some questions have been posed with the aim of familiarity with the demographic variables (age, gender, etc.). In the second section, the responders were asked to determine the condition of the dimensions of professional life quality in their organization, and on the other hand, they were also asked to determine the degree of importance that they attach to it. To determine the validity, the data collection instrument was matched with the content validity criteria. Therefore, the questionnaire was examined for its tangibility and was moderated through advice from the professors and experts.
To examine the reliability of the questionnaire, the Cronbach alpha coefficient was used through the SPSS 20 software.

Table 1 the results of the reliability check of the variables of the questionnaire.

The dimensions of professional life quality	Cronbach alpha coefficnet	
	desired statu	status quo
Organizational	0.928	0.855
Payments	0.867	0.818
Physical context	0.850	0.781
Growth and safety environment	0.910	0.844
Creative environment	0.904	0.883
Growth and safety environment	0.929	0.858
Psychological security	0.894	0.888
Social	0.871	0.767
Job security	0.916	0.824
	0.980	0.935

Since the Cronbach alpha calculated for each section of the questionnaire and also for the total data is above the acceptable level ($\alpha - 0.7$), the reliability of the questionnaire is strongly confirmed.

V. The Findings of the Study

In this part, first, the participants of the study are descriptively analyzed and then the condition of the professional life quality in the studied organization is examined. After presenting the descriptive statistics, we will test the hypotheses using the collected data and, finally, the results concerning the ranking of the occupational life quality dimensions will be given.

A. Describing the participants

In table 2, the statistical information about the participants is given. As the table suggests, most of the responders are male, have a BA, and are in the age group 31-50. The information on their work experience and their official position also shows that most of the participants have about10 years experience of working and are mainly experts.

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Table 2 descriptive statistics concerning the responder

Official position				Age group			
Expert	Responsible expert	Middle manager	Top executive	20 to 30	31 to 40	تا 41 50	More than 50
% 62/2	% 10/8	% 16/2	% 10/8	2/7 %	37/8 %	48/6 %	10/8 %

Gender		Education			Work experience		
Men	Women	Below BA	BA	MA and Ph.D.	5to 10	10to 20	More than 20
%81/1	%18/9	% 27	% 62/2	% 10/8	% 18/9	48/6 %	32/4 %

B. Describing the condition of professional life quality

Table 3 shows the status quo and the desired status of the dimensions of professional life quality in the organization. As you see in the table below, the status quo is divided by a large gap from the desired status. The reported information demonstrates that the payments have the widest gap and the social environment has the smallest gap from the ideal situation.

Table 3 the descriptive statistics of the desired and present status of each of the professional life quality dimensions

Dimensions	Status quo		Desired status		Gap
	Mean	SD	Mean	SD	
Organization	2.8428	59600.	3.8034	0.70206	-0/9606
Payments	2.3041	93008.	4.0203	0.87078	-1/7162
Physical context	3.2523	78333.	3.7027	0.68396	-0/4504
The growth and development environment	2.9189	73611.	3.4257	0.82257	-0/5068
Creativity environment	2.9526	61405.	3.5757	0.62779	-0/6231
Growth and learning space	2.8533	62948.	3.7568	0.72050	-0/9035
Psychological security	3.1040	51257.	3.7921	0.62331	-0/6881
Social	3.6014	73941.	3.9257	0.87175	-0/3243
Job security	3.1467	62132.	3.7954	0.74880	-0/6487

VI. Testing the Research Hypotheses

In this part, we test each of the primary and secondary research hypotheses using the collected data. As we mentioned, the hypotheses considered in this study comprise of a primary hypothesis which is the significant relationship between the desired and the present status and nine secondary hypotheses based on the significant relationship between the two conditions and each dimensions of the professional life quality.

A. Testing the main research hypothesis

The primary hypothesis had expressed that there is a significant relationship between the desired and the present status of the professional life quality in the industry, mining, and trade organization in the province of Yazd. To measure this, the t-test was used for the paired samples (the two dependent samples). Table 4 shows the results for the primary research hypothesis. With doing the relevant test within the 95% confidence level, a significance level (Sig) less than 0.05 was obtained. Thus, the null hypothesis is rejected and the opposing hypothesis is confirmed. In other words, it can be said that there is a meaningful relationship between the perceived professional life quality and the expected case.

Table 4 the results for the primary research hypothesis

Paired difference					Test statistic t	df	Sig
Mean	SD	Standard error mean	Confidence level%95				
			lower	upper			
76445.	73156.	12027.	1.00837	52054.	6.356-	74	000.

B. Testing the secondary research hypotheses

In this study, 9 hypotheses were articulated based on the desired and present status and each of the dimensions of the nine professional life qualities. Table 5 illustrates the t-test for the secondary hypotheses.

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Table 5 the results of testing the secondary research hypotheses

Dimensions	Paired difference					Test statistic t	df	Sig
	mean	SD	Standard error mean	Confidence level %95				
				lower	upper			
organization	96069.	97290.	15994.	63631.	1.28507	6.006	74	000.
payment	1.71622	1.34133	22051.	1.26899	2.16344	7.783	74	000.
Physical context	45045.	72528.	11923.	20863.	69227.	3.778	74	001.
Growth and security environment	50676.	88875.	14611.	21043.	80308.	3.468	74	001.
Creativity environment	62312.	81731.	13436.	35062.	89563.	4.638	74	000.
Learning and growth	90347.	92279.	15171.	59580.	1.21115	5.955	74	000.
Psychological security	68815.	78571.	12917.	42618.	95012.	5.327	74	000.
Social	32432.	88362.	14527.	02971.	61894.	2.233	74	032.
Job security	64865.	92618.	15226.	33984.	95745.	4.260	74	000.

Seeing the information in the table above, since the significance level in all the cases is below 0.05, it can be said that there is a significant difference between the perceived professional life quality and the expected case in all the nine dimensions. On this basis, it can be asserted that all the hypotheses were confirmed with 95% confidence.

C. Ranking the dimensions of the professional life quality

Another purpose of the current study was to prioritize the dimensions of professional life quality with respect to the responses from the employees in the industry, mining, and trade organization in the province of Yazd. For this reason, based on the responses from the participants with respect to the importance of each of these dimensions and using the TOPSIS method these priorities were clarified. In this study, with regard to the lack of confidence in the collected opinions, fuzzy areas have been used for a better analysis of the data at hand. Accordingly, the definite numbers of the questionnaire were changed into fuzzy numbers using the spectrum suggested by Cheng in the table below.

Table 6 Spectrum and fuzzy numbers

Verbal phrases	Fuzzy figures
Very little	(3 ,1 ,1)
little	(5 ,3 ,1)
average	(7 ,5 ,3)
much	(9 ,7 ,5)
Very much	(9 ,9 ,7)

Then, using the Topsis fuzzy technique the ranking of the nine dimensions of professional life quality is done. This method attributes an index to the fuzzy figures which called c. the ranking of figures from largest to smallest is determined based on the size of this index. The results of the ranking of the indexes are seen in the table below.

Table 7 the results of the fuzzy ranking of the qualities of professional life

rank	factor	Distance from positive ideal	Distance from negative ideal	C_i
1	payments	2.810598	4.7919	0.630307
2	organization	3.738103	5.7380	0.605525
3	Social security	3.771243	5.7685	0.604679
4	Growth and learning environment	3.772381	5.7692	0.604638
5	Growth and security environment	3.890959	5.8897	0.60218
6	Creativity space	3.928184	5.9261	0.601372
7	Job security	4.305218	6.303113	0.594166
8	Physical context	4.508781	6.5056	0.590647
9	Social	5.122459	7.1210	0.581615

VII. DISCUSSION AND CONCLUSION

The aim of the present study was investigating the conditions of professional and occupational life qualities and the ranking of its indexes within the organization of industry,

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mining, and trade in the province of Yazd. For this reason, in the questionnaire the responders who were the staff members from the target organization were asked to evaluate the dimensions of professional life quality in their organization and, at the same time, give a priority to desired status or the importance of each dimension from their own perspective. After collecting the data, the gap analysis was used to see the distance between the status quo and the ideal status. In this way, the research hypotheses were tested. Also, the TOPISIS fuzzy method was used to rank the dimensions of professional life quality.

The findings of the study can be grouped in three categories. The first category is the findings from the descriptive statistics of the dimensions and parameters of professional life quality considering the present condition in the organization. The second category is obtained from the gap analysis on the present and the desired status of professional life quality. The third category is related to rankings of the dimensions in the organization. Next, the results of the study are reviewed.

A. Findings from the descriptive statistics

From these dimensions of occupational life quality, the dimension of "payments" had the largest gap and the dimension of "social environment" had the smallest gap from the desired status in the target organization. In other words, payments had the worst condition compared to other issues that mattered to the staff members of the industry, mining, and trade organization in the Yazd province. The payment index consists of other indexes that are the correspondence between income and privileges and expertise, the reward and the extent of activities correspondence, and the correspondence between the salaries and other incomes and the payment rate in other organizations, and finally, the life costs corresponding to the payment rates.

B. Findings from the gap analysis and hypothesis testing

In this stage of the study, using the gap analysis, we investigate and compare the significance of the differences between the present and the desired status of the occupational life quality in the organization of industry, mining, and trade in Yazd. The results of this investigation can be summarized as following:

The primary hypothesis: the results indicate a significant and meaningful difference between the present and the desired status which is confirmed by the data obtained in the study. It can be inferred in this way that the current situation in the target organization has a gap from the desired (and expected) situation.

The secondary hypotheses investigated each of the dimensions of the professional life quality between the two situations. All the hypotheses were confirmed. In other words, there is significant difference between the present and the expected status of all the dimensions including the organizational, payments, physical context, growth and safety environment, creativity environment, growth and learning, psychological security, social security, and occupational security in the industry, mining, and trade organization in Yazd.

C. The results from the ranking of the dimensions of the professional life quality

In this stage of the study, the TOPSIS fuzzy method was used to do the ranking of the dimensions of professional life quality. The most important dimensions were determined as follows: payments, organization, psychological security, learning and growth environment, growth and security environment, creativity space, job security, and physical and social context. The results from this part indicate that the most important dimension is the payment that has the following indexes: the correspondence between income and privileges and expertise and knowledge, the reward and the extent of activities correspondence, and the correspondence between the salaries and other incomes and the payment rate in other organizations, and finally, the life costs corresponding to the payment rates.

VIII. THE PRACTICAL RECOMMENDATIONS OF THE STUDY

Here, considering the sluts of the study, some practical recommendations are presented for improving the dimensions of professional and occupational life quality:

1. To materialize the payment correspondence to social criteria, the practicality factor must be considered in a way that it acts as a result of the quantitative and qualitative performance of the employees.
2. With respect to the importance of immaterial rewards, the managers must be aware of the effects of these rewards on the staffs and must use motivations other than income and salary like preparing the ground for suitable work, and showing a sense of gratitude, belonging, and participation.
3. In line with the growth and development of individual capacities, it is necessary to pave the ground for creating training workshops and related support.
4. Giving perpetual training and creating equal opportunities for the workers in designing and supervising the work process.
5. Encouraging the members to continue their education in order to boost the knowledge and views about the professional activities.
6. Trying to create a friendly and healthy relationship and working condition among the staff members.
7. Having recreational activities for the workers and their families with the aim of boosting their morale.
8. The safe and healthy working environment and the physical characteristics of the workplace are among the most important factors in the professional life qualities of the

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workers. For the same reason, some attention must be paid to the physical contexts including, the light, the installation of heaters and coolers in accordance with the season, and planning the working time using the employees' opinions.

9. Encouraging the workers to cooperate and boosting the professional morale for collective work among the staff members using the discipline papers.

10.Creatign an environment in which the staffs can openly and freely express and exchange their constructive opinions and ideas in a way that their powers and capacities can be optimally sued in solving organizational problems.

11. Considering the factors in growth opportunities, managers should make use of the employee knowledge and skills more than before, so that a more powerful sense of belonging and security can be established, and they use their creative capacities in promoting the organization.

12. Social solidarity is also one of the important factors in the professional life quality that can be helped through creating the necessary facilities for work and support by the managers.

13. Creating opportunities for the development of interpersonal relationships specially through camping with families.

14. Trying to create a friendly atmosphere at work and intimacy among the workers.

15. Holding recreational ceremonies on behalf of the organization for the employees and their families with the aim of boosting the morale in professional activities.

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ISSN (Online): 2305-0225
Issue 1(7S), August 2014, pp. 48-53

Determining the life-cycle through the cash flow patterns taken from the cash flow forms

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***Abstract*—** One of the methods for distinguishing the stages of the life cycle of the firms was presented by **[1]**. In this method, to differentiate the stages of the firm's life-cycle, the model created by the positive and negative signal of the layers of the cash flow forms concerning the operational levels (investment, operationalization, and financial supplies) is used. Attributing each of the cash flow patterns to the stages in the life cycle in firms has been done using the economic theories. The features related to the cash flows of the life cycle can be determined through the economic theory. Knowing the stages of the life cycle in firms can help the credit-givers, investors, and the most important user of the accountant information in predicting the future situation of the firms. In other words, the conditions in which the firm is seen help the users of accountant information to have a better evaluation of the financial information of the firm, the present and future needs (like the need for investment and financial supplies) and also the capacity and action of the management. In this study, the method for determining the patterns of cash flows, its superiority over other methods of determining the life cycle and theories about the patterns of cash flow will be explained in detail.

***Keywords*—** cash flow pattern, the cash flow forms, life cycle, economic theory, the three-facet flow form

I. Introduction

SOME researchers in the area of finances have tried to investigate the effects of the life cycle of the firms on account information like cash and commitment-bearing items, growth in sales, investment expenses, research and development costs, and the payment risks. Their findings show the effects of the life cycle in firms on the relevance and the explanatory power of the accountant information [2], [1]**.**

All the discussions that were followed previously on the theory of the life cycle and its different stages indicate that the commercial units must be responsive to the demands within and without the organization in line with their life and evolution with the aim of satisfying the requirements and, in other words, to survive they are affected by factors within the organization like (management factors, the expenses structure,..) environmental factors (competitive factors, creativity, ..). The presence of these factors cause the commercial unit to be in one place at a time in an economic way and thus show a different economic behavior depending on the stage in which it is present. Multiple studies have been done in the area of accounting that confirm the above statements and study the effects of the firm life cycle on the accounting information [2].

II. The theory of the life cycle

The firm life cycle theory assumes that the commercial agencies and units like all other living things that are born, that grow, and die, have a life cycle curve. In each stage of the life cycle they encounter certain problems, and in transferring from one stage to another, they also face some specific problems. The commercial units are often encountering many difficulties in their movement and they cannot solve these difficulties using their own task force and advice from people outside the organization is unavoidable if the problem is to be solved. Like living things, the growth and oldness of the commercial units can be illustrated by the measure of control and flexibility. In youth (the growth age) the commercial agencies are very flexible but at the same tine uncontrollable.Withthe growth in the life of the commercial units, the relations change: control, increases and flexibility decreases. Finally, with older age the controlling means are also taken away. When the commercial unit is at the same time having a lot of flexibility and also control, it can be said that the unit has both the youth and the old. This stage is referred to as the stage of evolution or maturity.

The patterns related to the industry life cycle can occur due to the creativities and the pressure from competitive changes during the life cycle of the industry. But the life cycle stages in companies under a larger industry can be different because during the life cycle creativity is a continuous procedure

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together with coming and going of different companies to the market. Moreover, the life cycle stages of each company under an industry have several differences with other competitive environment due to discrepancies in consciousness (on the main rivals, the expense structure and operational capability), primary investments, reinvestments, and adaptability to the competitive environment [2].

The five life cycles in an imaginary market is given below:

1. The introductory stage: the stage where the first creativity occurs
2. The growth stage: where the number of the producers is on the rise
3. The maturity stage: the stage where a maximum of producer is reached
4. The recession stage: where the number of producers decreases
5. The downfall stage: where the net input in the industry is almost zero

All the discussions so far on the life cycle theory and the stages that it has tell us that the commercial units must be responsive to the demands within and without the organization in line with their life and evolution with the aim of satisfying the requirements and, in other words, to survive they are affected by factors within the organization like (management factors, the expenses structure,..) environmental factors (competitive factors, creativity, ..). The presence of these factors cause the commercial unit to be in one place at a time in an economic way and thus show a different economic behavior depending on the stage in which it is present. Multiple studies have been done in the area of accounting that confirm the above statements and study the effects of the firm life cycle on the accounting information [2]. In the theories of economy and management, the life cycle stages are divided in several ways. Here, very briefly, we will explain these stages and the behavioral patterns that the commercial units show in any of these stages.

Table 1- The features of the firm in the stages of the life-cycle

Downfall	recession	maturity	growth	Emergence	Stage / feature
Sale experiences downfall	Sale goes down	Sale reaches maximum	Sale goes high sharply	Sale is low	sale
Customer expense is little	Customer expense little	Customer expenses little	Customer expenses are average	Customer expenses high	expenses
On the low	On the low	Much	On the increase	negative	profitability
On the decrease Gone	The number decreases	The fixed rate on the decrease	On the increase	little	Rivals entry
Much	On the rise	Little	Decreases compared to before	much	risk
Selling the investments	Selling the investments	Little	Much	much	investment
No profit or money for distribution	Little	Much	Investment opportunities many	little	Sharing the profit
Using the sources within and selling the investments	The cost of financial supplies is higher and they try to use domestic sources	Inside and no need for supplies	Outside and inside the company	Out of the company	Financial supplies

III. The methods for determining the life cycle stages

A. The method suggested by Anthony and Ramesh [4]

Firms are divided into the life-cycle stages (growth, maturity, and downfall), using the criterion that is a combination of the three parameters of financial forms (growth in sale, the investment expenses, and the relation of the divisional profit payments) and age.

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Table 2-The life cycle model

The stages of life cycle	Divided profit percentage	The sale growth	The firm age	Investment expenses
growth	low	high	Low (young)	high
maturity	high	average	Average (mature)	average
downfall	low	low	High (old)	low

B. The cash flow patterns method

According to the statement number 95 from the American financial standard committee and on the international scale, based on the accounting standard number 7 of the international committees and owing to them in most of the countries of the world, the form of cash flow can be of three parts of the operational activities, investment and financial supplies. In this study, following this pattern, the combination of the financial flows was examined based on the three-part pattern. The patterns of the cash flow can be obtained from combining the positive signal (input) and negative (output) of the forms of the cash flow.
[3] divides the stages of the life cycle stages using the three levels of the cash flow form (operational, investment, and financial supplies).

Regarding the fact that the cash flow forms in Iran are prepared in five levels, it is necessary to turn the cash flow into three facets to distinguish the stages of the life cycle of the cash flow.

The signal of each of the cash flows (operational, investments, financial supply) in the stages of the life cycle of the firm has been anticipated with regard to the economic theories, and the previous research. Using these factors, the patterns of the cash flow of each stage in the cycle is predicted. In what follows, the rudiments of the form of the cash flow and also some of the relevant theories to the facets of the cash flow during the life cycle of the firm are presented.

Analysis of the pattern of cash flows during the stages of the firm life cycle

Life cycle	Economic theories- based on the firm life cycle theory	)CFF(	)CFI(	)CFO(	Pattern
recession	The firms that follow this pattern to design the future development, repaying the long-term obligations, and reduce the investments. With keeping too much cash cause the inefficiency of the resources and the firm investment and lack of trust the firm credit-givers with holding back properties with little liquidity.	+	+	+	1
maturity	This combination is considered ideal for the cash flow. In these firms the cash flow will bring adequate for the three facets of the cash flow in future.	-	-	+	2
recession	With the weakness in the cash flows of the operational activities of the firm, the financial needs are not covered and this will lead to the investment and selling of the firm properties, inability to pay the debts, and the negative reaction of the market of stock exchange and increase in the future financial crises of the firms	-	+	+	3
growth	This pattern shows the growth process and the proper actions of the firm. The solution that all the firms adopt for compensating the shortage of finances to use investment opportunities is either the increasing the investment or borrowing.	+	-	+	4
downfall	In this stage of the cash flow pattern, the firm comes in contact with a severe financial crisis and cannot acquire adequate finances to meet the requirements concerning the operational cash. In this pattern, firms give out the cash assets that cannot create favorable cash flows, selling other assets,	+	+	-	5

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	borrowing, or increasing the firm property.				
emergence	In this pattern the firm has a top financial lever and the financial crises of the companies are in the short-term process and there is a weak reaction in attracting the cash flows from the operational activities and investment.	+	-	-	6
downfall	In this pattern, the firm begins to give out some of valuable assets to meet the financial requirements.	-	+	-	7
recession	The firms that have several financial problems follow this pattern. If the operational activities of the firm cannot attract the cash flows this will lead to the emptying of the financial resources in near future.	-	-	-	8

IV. The Cash Flows During the Stages of the Firm Life Cycle

A. Operational cash flows

The operational cash flows are negative while emerging, because firms enter the markets with defective information about expenses and the operational environment and only seek to get information in this stage.

The firms that are in the stage of growth and maturity experience positive operational cash flows. Also, they will try to maximize the border of profit and their efficiency. With the experiences that the firms get from previous stages on the expense structures (which are one of the important ways of getting information about the expense structure of accounting) maximize the borders of their profits in the growth stage .

Since most of the firms are competing to find their place in a saturated market the operational profits decrease. Then, the firms must be creative which means that they must reduce the expenses or impose structural changes in order to continue the operation. In the economic literature, this stage is known as the recession stage. The firms that cannot exit to one of the previous stages of their life cycles (emergence, growth, maturity) find themselves in the downfall if the operational cash flows are negative.

B. The cash flows from the investment activities

This facet of the cash flow form shows a combination of the financial and obvious asset deals which increase during the first stages of the life cycle. At this stage, firms often experience the additional cash flows in investments (the original negative investment activities) for creating the capacities. It has been asserted that firms can create obstacles for entering the industry and make the production market unattractive for the entering sides with creating further capacities and tolerating the expenses regarding the important assets in the primary stages of the life cycle. The firms that experience downfall often continue to sell their assets empty their operation of financial supplies or pay their debts. This action will cause an increase in entering cash flows following the investment activities.

C. Cash flows caused by financial supplies activities

The firms that are in the process of emergence and growth have positive cash flows because at this level they turn to supplies their financial needs out of the operation. Since in this process, there is need to look for sources outside the firm because there are lots of investment expenses.

The firms in their maturity change their focus from financial supplies to paying the debts. In this stage, the needed cash flow exists to suffice the operations and investments, so the firms switch their policies to paying the debts and dividing the profits [5].

The firms in their recession can externally or internally support their creativities. There is no economic theory about the financial supplying in the recession stage.

The features related to the cash flows in the stages of growth, emergence, and recession can be determined through the economic theories. But it is far more difficult to predict the effects of the firm cash flows for the firms in their recession. So, the firms that do not have the overt four facets that were mentioned will be categorized as in recession. In figure 2-18 the economic theories related to the facets of cash flow forms during the stages of the life cycle have been presented.

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Table 5 –the economic theories related to the facets of cash flow forms during the stages of the life cycle

Cash flow	emergence	growth	maturity	recession	downfall
operational	Firms with defective information about the potential costs and incomes enter the market **Cash flow** (−)	Firms in this stage get the most border profit **Cash flow** (+)	Because of more operational information efficiency reaches its maximum Cash flow (+)	Based on the effects of increase in competition which is a determinant in this stage, the operational cash flows are positive and negative **Cash flow** (+/−)	The decrease in growth rate causes less expenses **Cash flow** (−)
investment	Firms move towards creating capacities and talents. With renewal of investments in the primary stages of life cycle, the firms can create some entering obstacles **cash flow**	Firms move towards creating capacities and talents. With renewal of investments in the primary stages of life cycle, the firms can create some entering obstacles **Cash flow** (−)	The rejection of the relation of the new investment increases until the original investments become negative **Cash flow** (−)	No theory exist for this stage **Cash flow** (+/−)	Selling or giving out he asset to pay the debt **Cash flow** (+)
Financial supply	In this stage, the firms satisfy their needed cash through outside supplies **Cash flow** (+)	In this stage, the firms satisfy their needed cash through outside supplies **Cash flow** (+)	The firm policy is close to repaying the debts and distributing the cash among the shareholders **Cash flow** (−)	No theory exist for this stage and firms in recession can supply their creativities within or without the firm **Cash flow** (+/−)	Not theory exist for this stage and the firms may have to repay the debts or still have some credit for borrowing **Cash flow** (+/−)

V. The differentiation features in the cash flow form in the three and five facets

1. Not including the equivalent items to cash flows in defining cash flow in Iranian standard.

2. Separating the return of the investments including interest, the received share profit, and the guaranteed interest rate from the operational activities and separating the paid share profit from the financial supplying activities and using the four cases in separate title of "the return of the investments and the paid profit for the financial supply" in the Iranian standard.

3. Separating taxes on income from the operational facet and including it under a separate title in the Iranian standard.

Table 6-The summary of the differentiation features in the cash flow form in the three and five facets

Cases Differentiation	**Three facets** International standard	**Five facets** National standard
Items as cash	Inclusion as cash flow	Exclusion as cash
The return of investments	Operational sector	The investments return and the paid profit as financial supplies
The received share profit	Operational sector	The investments return and the paid profit as financial supplies
Guaranteed profit	Operational sector	The investments return and the paid profit as financial supplies
The paid share profit	Financial supplies sector	The investments return and the paid profit as financial supplies
Tax on income	Operational sector	The part dealing with taxes on income

The standard number 95 in the United States just as the international standard related to the forms of cash flows; give the information on these flows in the three facet format (operational, investments, financial supply). These two standards do not differ in category and what is placed in the facets, but there is some difference between them in giving out the presentations. For instance, the international standard has asserted that the cash flows related to the unexpected items be presented separately in the form of operational activities, investment, or financial supplies [3].

VI. Criticisms on the Anthony and Ramesh method

They categorize the firms into the stages of the firm life cycle, the using the three criteria of the financial forms (the growth in sales, the investments expenses and the proportion of the payments in divided profit) and age.

Using the age of the firm as the index of the firm life cycle is focused on the assumption that the firm moves through the cycles of its life in a prefigured unchangeable fashion. However, with important creativities in productions, entering new markets or having basic changes, firms can enter different cycles of life not in a sequential manner. So, one can claim

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that the age of a firm differs from its life cycle because the rate of learning in firms with the same age cannot be the same regarding the defects in the feedback mechanisms (like quality in accounting). Other than that, difference in management capability can affect the interpretation of the performance but the difference in the motives for the organization also influences the acceptable risk for a firm. These two factors can lead to differences in age and actions.

In addition to this, their method involves taking another assumption about the monotonous distribution of the categorized variables and the voluntary separation points for the life cycle. Using ordered portfolios based on monotonous distribution is not compatible to the economic theory. What's more, the method of the patterns of the cash flows is the natural outcome of economic activities. Therefore, such an assumption is not necessary for the manner of distribution.

In their method the firm life cycle can be determined using the investigated sample. In other words, if a firm is put in the growth stage, it may enter other stages of the cycle by changing the studied firms. This problem cannot be seen in the pattern of cash flows and the firms are separated into life cycles quite separately.

VII. Summary and Conclusion

In the studies done about the life cycle using the [4] which is much used in Iran, the difference in the relationship between variables like risk and results, profitability and output, and informational content of profit and the firm cash flows in the life cycle stages were studied and it was found that no theory supports these solution in determining the firm life cycle. [3] for the first time in her Ph.D. dissertation whose title was "Growth and the future profitability and the role of the firm life-cycle and the entrance obstacle" tried to determine the lifecycle in firms based on the patterns of cash flows. Based on research, the cash flow patterns are derived from a combination of positive signal (input) and the negative signal (output). Dickenson divides the stages of the firm life cycle, using the patterns derived from the three facets form of the cash flow form (operational, investment and financial supplies) and the relevant theories. She concluded in her dissertation that the operational profit shows a non-linear pattern during stages of the firm life cycle. She also showed that the profitability and the growth motivators are influenced by the life cycle and the stages of the life cycle increase and strengthen these factors.

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The Evaluation of the performance of the Health Faculty from the Hormozgan University of Medical Sciences Based on the Model of EFQM in the Year 2013

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***Abstract*—** The quality of universities and higher education centers has been one of the concerns of most of the countries in the world in the last two decades. A standard evaluative system can be effective in improving the quality of higher education and causing it to be responsive in the competitive world today. To assess the quality of education, different patterns and mechanisms are used including the EFQM Excellence Model. The purpose of this study is to determine the performance level of the Faculty of Health, at the Hormozgan University of Medical Sciences, according to the EFQM Excellence model. The cross-sectional method was used in intervals. The population consisted of 30 managers, experts and members of the Faculty of Health at the Hormozgan University in 1392 which was based exactly on the statistical population. Using the type of questionnaire from the EFQM model of excellence, a 0.99 Cronbach alpha and a suitable validity were considered in collecting the data. The SPSS 19 software and the student t-test were used to analyze the data. The findings of the study demonstrated that the average score of the self-evaluation from the health faculty of the Hormozgan university of medical sciences in the area of empowerment has been 309 out of 500, and in the area of results 304 out of 500 which altogether makes a score of 613 out of 1000.

***Keywords*—** assessment, performance, excellence model of EFQM, Higher Education

I. Introduction

The quality of universities and higher education centers has been one of the concerns of most of the countries in the world in the last decade or so [1]. The main source of producing knowledge and information can be surely identified as the higher education centers [2]. Both the qualitative and quantitative aspects of the higher education system must be seen within the sensitivities of the common people as the factor which is effective in the growth and development of universities. The appetite among the youth for getting university degrees has caused a significant growth of the higher education centers and university in number in Iran. This is true while the growth in quality has been neglected. The proper solution can be evaluations for promoting and upgrading the qualities. To improve and upgrade the higher education system, there has to be some kind of compatibility with the conditions, peculiarities, and backgrounds in the systems and this involves having a proper evaluative system [3].

All the organizations endeavor to be at the center of global areas and this presence involves encountering the competitive atmosphere as a useful organization in recent years. While some few organizations have obtained this level to some extent, the need to construct a good framework for achieving organizational qualities in the higher education centers is felt. That the higher education section in Iran must move towards using the Total Quality Management (TQM) is being discussed. For the first time, it was in 1951 that the concept of TQM was introduced as one of the most effective solutions in the organizational management in different areas [4].

TQM is a type of management that pays a lot of attention to the customer expectations and moves, on all sides, in line with attracting the customer satisfaction, the process of producing the items, and services [5]. Of the important principles of quality management we can point, as an example, to considering the quality as a responsibility for all the sections of the organization, avoiding the superficial problems instead of investigating, customer-centeredness, continual improvement and the quality leadership[6].

In the late 18^{th} century and in the early 19^{th} century, more attention was given to the improvement of quality in the higher education institutions. The students and learners are the basic users for the government and other institutions related to the higher education issues whose pressures made the

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institutions adopt the improvement and upgrading polices. Thus, the higher education centers are looking for ways of improving their quality management and performing and exercising periodic self-evaluation in order to promote their qualities [5].

In this respect, there are various types of organization excellence models that formed on the basis of the concept of comprehensive quality management and act in the same way. Of these known models we can name the Deming Model, the Malcolm Baldridge national quality prize, and the European foundation for the quality management (EFQM) that have a great role to play in the evaluation of organizations [8].

The European economy was threatened by the presence of the Far East markets especially that of Japan in the late 1980s, the general directors of a few multinational European companies came together for the first time and founded the EFQM foundation in 1989 that was confirmed and recognized by the European Union. The EFQM model was shaped in 1999. The first European quality prize was established on this basis in 1992 [9].

The use of the EFQM excellence model in higher education was seen along with the establishment of the commercial copy of this model. This model was pursued and used successfully by some European and Asian universities. In higher education, excellence in the EFQM model is not limited to the measurement of cost and traditional profits, and encompasses areas such as the human resources management, and the satisfaction rate [4].

Since 1382, the EFQM excellence model was ratified by the institute for the studies in human resources and quality from the ministry of industries and mines as the infrastructural model of national award for benefits and organizational excellence. It was employed only in the section for industry and mining for the first four years. But considering the experiences from the year 1386, it was generalized to other sections as well. For the universities, this model is now given many applications and we can take for example the universities of TarbiatMdares, ShaheedReja'ee Teacher Training University, KhajehNasir-aldinTusi, Mashhad University of Medical sciences, Yazd, Kazerun University, Ghom Azad University, and Shahrekurd Azad University. But distinguishing the area of results (that the organizations acquire) and the empowerment (organization management) is another basic feature of the EFQM model [11], [12].

The foundation of the philosophy of the excellence model is placed on the eight concepts of the Total Management Quality (seeking outcomes, being customer-centered, developing the employee participation, leaning, creativity and permanent improvement, developing companies, and social responsibility) [13].

The EFQM model has two structural areas that are the outcomes and the empowerments An intelligent framework in the two areas of the processes and outcomes are used to evaluate the organizational actions through the excellence model. In this model, the achievements from the evaluation of the strengths and the improvable aspects of the organization, suggest a list of prioritized programs to achieve better results [10].

The constituting parts of organization and how they interact is relevant to the area of empowerment that comprises of five elements of leadership, policy and strategy, staffs, resources, the companies and processes and the result of implementing the facilitators is the outcome area which consists of the four elements of customer, staff, society, and key performance outcomes. Tis model has nine indexes that can completely evaluate the organizations from different aspects. They can also determine the strengths and weakness of the organizations [14].

The radar logic is used to give credit in this model. In fact, it is the heart of the model which has four parts and includes outcome, solution, operationalization, evaluation, and revision. The radar logic is, in fact, a concept similar to that of the Deming Cycle for the continual improvement of quality. Higher education has central activities like research, training, and services. The EFQM concentrates on mission, leadership, and processes that are common to all the higher education activities. On the other side, the pivotal activities in universities are interconnected and, hence, to guarantee the quality in all aspects involves the use of such methods and policies. The number of universities that perform self-evaluation is on the increase but the issue of quantitative scientific documentations in this respect, which is the self-evaluation process, is an important issue.

The aim of the study is to determine the score for the self-evaluation of the Health faculty at the Hormozgan University of Medical Sciences based on the EFQM organizational excellence model.

II. Methods

In this descriptive-survey and cross-sectional research, all the managers, experts, and full-time faculty members of the health faculty (30 individuals) were examined in 2013. The statistical sample is precisely based on the statistical population and includes one manager, 14 experts, and 14 faculty members.

To collect the data, a moderated EFQM questionnaire was used that had 107 equally weighted questions consisting of the leadership element (12 questions), policy and strategy (8 questions), staffs (15 questions), participation and resources (15 questions), the processes (9 questions), customer results (11 questions), staff outcomes (15 questions), the society outcome (11 questions), performance key outcomes (11 questions). The equally weighted questions show in what section the faculty has the greatest weakness and improving it would leave the most beneficial effects in the excellence of the organization.

The score has the least value of 0 and the maximum value

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of 10 and the score 5 is considered average (desirable). If there is not any significant difference, that criterion will be taken as strength. The validity of the questionnaire was confirmed by the experts.

To confirm the reliability, the questionnaire was distributed among ten people from the statistical population randomly and the total Cronbach's alpha was 99% and was confirmed for each of the criteria. The student statistical t-test and the SPSS 19 software were used to process and analyze the data.

III. The Results

Fifteen (50%) of the participants were male and twelve (12%) were in the age group 36-45. The average age of the participants was 34.72 and the age limit ranged from 27 to 47. 33.3% had a BA, 36.7% had an MA, and 30% had a doctoral degree.

The scores obtained from the criteria of facilitators in the self-evaluation from the health faculty at the Hormozgan University of medical Sciences are as below:

Table 1 illustrates the scores of the target faculty from a sum of the empowerment factors in the EFQM excellence model, their distance from the desired status, the percentage of the desired scores, and the percentage of distance to the desired status. The results of the study showed that among the facilitating criteria the most distance from the desired state belongs to the policies and strategies and the staffs (41% distance) and the least distance belongs to the participation and resources (35% distance).

Table 1 the summary of the scores of the facilitating criteria of the organizational excellence model in the health faculty at the Hormozgan University of Medical Sciences

Criteria	The acquired score	Maximum score	Distance to the desired state	The obtained scores	Distance to the desired state in percentage
The leadership area	64	100	36	% 64	% 36
Policy and strategy	59	100	41	% 59	% 41
Staffs	59	100	41	% 59	% 41
Participations and resources	65	100	35	% 65	% 35
The processes	62	100	38	% 62	% 38
Sum of scores	309	500	38/2	61/8	% 38/2

The results from the table above demonstrates that the empowerment criteria from the target faculty have obtained 61.8% of the desired status with a total of 309 scores out of 500 scores in comparison with the criteria of empowerment in the organizational excellence model, and has an almost 38.2 distance from the desired state. Also, in the self-evaluation of the target faculty, the obtained scores from the criteria of scores are as follows:

Table 2 the summarized criteria scores of the results of the organizational excellence model from the health faculty of the Medical Sciences University in Hormozgan

Criterion	The acquired score	Maximum score	Distance to the desired state	The obtained scores	Distance to the desired state in percentage
The customer outcomes	59	150	36/7	% 63/3	% 36/7
The staff outcomes	54	100	46	% 54	% 46
The society outcomes	55	100	45	% 55	% 45
Key performance outcomes	100	150	33/3	% 66/7	% 33/3
Total scores	304	500	39/2	60/8	% 39/2

Compared to the criteria concerning the results of the organizational excellence model, the criteria in the target health faculty at the Hormozgan University of Medical Sciences, with attaining 304 out of 500 scores had 60.8% of the desired scores and had almost a 39.2 distance from the desired state. The findings also indicated that the widest distance from the desired state belongs to the staffs' outcomes (46% distance) and the least distance belongs to the key performance outcomes (33.3%).

In what follows, the total score of the health faculty at the Hormozgan University of Medical Sciences is given based on the model of organizational excellence, the sum of the empowerment score and the other results.

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Table 3 the total scores of the empowerment factors and the outcomes of the organizational excellence model of the health faculty of the Hormozgan University of medical Sciences

Criterion	Acquired score	Maximum score	Distance to the desired state	Achieved score percentage	The distance to the desired state in percentage
Empowerment	309	500	191	61/8	% 38/2
Outcomes	304	500	196	60/8	% 39/2
Total score	613	1000	387	61/3	% 38/7

The results of the table above demonstrates that the performance criteria of the health faculty is almost 38.7 percent away from the desired state with achieving a sum of 613 scores from a total of 1000 which makes 61.3 percent of the desired scores compared to criteria mentioned in the organizational excellence model.

IV. Discussion

The most complete way of evaluating the performance is the organizational excellence model that requires a creative and motivated work force apart from commitment to excellent management. Achieving this level of excellence cannot be realized in the short-term and organizations must have long-term plans to do this [6]. Of the most important advantages of the organizational excellence model are items like examining the current condition of an organization, identifying the places where there exists room for further improvement, and trying to eliminate the weaknesses. With regard to the results of the present study, the criteria of leadership, policy and strategy, staffs, resources and participations, processes, customer results, key performance outcomes were determined as the strengths and the staffs and society outcomes were determined as the weaknesses that need to be improved in the health faculty of the university of medical sciences in Hormozgan. The obtained results show that a lack of attention to the ways of achieving the community results and holing an improper attitude toward the faculty members and the staff condition are among the difficulties of the target situation.

The results of the highest score was recorded in the area of the key performance outcomes and the lowest score was recorded for the staff outcome which shows the little and inadequate degree of attention devoted to the staff members. It is necessary to give special attention to the condition of the employees other than the empowerment factors and other criteria in that the main property of an organization can be rightly called the organization human resources.

Organizations are advised to have creative workers and give adequate opportunities for accumulating new knowledge. Thus, it is necessary to have widespread and suitable planning to achieve the excellence level in the short-term in the area of human resources training.

Investigating the current situation of the organization and determining the improvable places and trying to bridge the exiting gaps and ultimately boosting the strengths of the organization were significant in the quality of organizational performances.

With regard to the results of the current study, the criteria of leadership, policy and strategy, staffs, resources and participations, processes, customer results, and key performance outcomes were determined as the strengths of the organization that are above the desired status and the staffs and customer outcomes were determined as the improvable criteria that need to be improved in the health faculty of the university of medical sciences in Hormozgan.

The scores obtained show a lack of consideration for the staff condition and the faculty members' condition which damages the performance of the organization. Also, the strengths of the faculty show that despite the degree of attention dedicated to the human resources, more attention is now given and more efforts are seen in improving the product quality.

V. Conclusion

From the perspective of the managers and the faculty members of the health faculty of the Hormozgan University of medical Sciences, the following conclusion can be given. According to the 2010 edited model, 613 scores were obtained from a total 1000 from the EFQM organizational excellence model.

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